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ART. I.—*The Present Crisis and its Issues.* Address delivered by Rev. B. M. Palmer, D. D., at Washington and Lee University, Lexington, Va., June 27, 1872. Baltimore: John Murphy & Co.

This Address, which so many persons have read with the deepest interest, has three claims to our most careful, conscientious, and profound consideration. These claims arise: 1. From the magnitude and importance of the subject discussed in the address; 2. From the occasion on which it was delivered; and 3. From the high character and great reputation of its author.

1. How awful the theme suggested by the words—‘The Present Crisis and its Issues’! As these words relate, not to the dark and troubled state of the religious world, but only to the social and political condition of this country, so there is not, perhaps, in the whole range of human thought, a subject which comes more directly home to our business and bosoms. Our hopes have fled, and we sit in darkness. The lights which once seemed to guide us safely, and to cheer us on our way, have gone out; and the ground, once apparently so firm under our feet, is still unsettled and heaving from the mighty volcanic throes of the late revolution. Coming events have, as yet, only ‘cast their shadows before,’ causing us to feel, though

we cannot see, that imminent dangers await us. In this dreadful state of darkness and uncertainty, a general feeling of distrust, anxiety, and discontent is gnawing at the heart of the American people. The Present Crisis, in one word, sits and broods, like an awful incubus, on the minds, hearts, and imaginations of all thinking men. The Nemesis of God has, indeed, involved us in a frightful vortex of the universe, which is beating us onward, we know not whither, into the dark, dark future, and in whose irresistible grasp we are overwhelmed with a sense of our own feebleness. Who, then, will show us any light? Who will cast any illumination, if it be only one ray, on our destiny as a people? It is on this grand theme, this awful subject, that Dr. Palmer feels himself charged with a 'message' to 'the young thought and hope' of the country. Who, then, is not all heart, and all ear, as he listens to his solemn and soul-stirring message? 'Young gentlemen of the University,' says he, 'I have delivered the message with which I have felt myself charged.' Let us read, mark, learn, and inwardly digest the contents of this 'message.' 'I have not been able to address you,' he continues, 'with the fopperies of rhetoric. I have done you the higher honor of supposing you capable of sympathizing with the deep emotions of my own heart.' Let us, then, with a lofty candor, and in full sympathy with his deep and patriotic emotions, weigh his words, and lay them to our hearts. For is it not evident that the magnitude and importance of the subject demand our most careful, cautious, conscientious, and profound attention?

2. This consideration is, also, demanded by the occasion on which the message in question was delivered. It was 'delivered,' as we learn from the title page, 'before the literary societies of Washington and Lee University,' one of the largest and most flourishing institutions of learning in the South. Such an occasion was calculated to draw, and has in fact drawn, the attention of the press to the Address before us, so as to extend its influence, far and wide, beyond the walls of the University in which it was pronounced. The young men of the two societies there assembled, and their numerous friends, both young and old, as well as the Faculty and the

Trustees of the University, not only received a deep impression from the burning words of the Address themselves, but they have also, by means of the press, given them a wide circulation and permanent influence. Hailing, with enthusiastic delight, that 'appropriate and most impressive Address,' the two literary societies of the University have commended it to 'the young thought and hope' of the South, as the great pleading of their chosen orator — 'the distinguished advocate of Truth and Liberty.' The Faculty, too, in compliance with a 'resolution of the Board of Trustees,' have published 'the very able and eloquent Address,' which was delivered 'in the chapel of the University.' Surely an Address which comes before the world, thus accredited and thus commended, deserves the most thoughtful, patient, and profound consideration of every man who really loves his country, his kind, or his God. Perhaps no discourse of the present day has been as extensively circulated, or as highly eulogized, as this of Dr. Palmer, on the all-absorbing theme of 'The Present Crisis and its Issues.' Who has not read it? But who, in the name of God and humanity, has bestowed on it that calm, conscientious, and *scrutinizing* attention which its great importance demands?

3. The high character and the great reputation of Dr. Palmer entitles his Address to our very best and most discriminating attention. An address delivered on such a theme, and coming before the world under such auspices, could hardly have failed to attract much attention, even if it had been the production of a comparatively obscure person. But having proceeded, as it did, from the pen of the Rev. B. M. Palmer, the universal interest which it has excited was to have been expected as a mere matter of course, especially if we consider that Dr. Palmer is universally known as, perhaps, the most eloquent pulpit orator and writer of the Presbyterian Church, which, for piety, learning, and ability, is not excelled, if equalled, by any other in this country. How many people, indeed, both in and out of his own denomination, have read his oration with rapture, and, with generous enthusiasm, given it to the wings of the wind, bidding it God speed!

Such are the claims which, in our humble opinion, entitle the Address of Dr. Palmer to our very best attention and most discriminating judgment. What, then, have we to say of this celebrated Address? As to its style, or eloquence, it is as far above our censure or our praise as it is above our capacity. If we do not use the customary phrase, that his style has 'filled us with delight and *despair*,' this is only because it has always been beyond the reach of our highest hopes. Whenever he strikes a great truth (as is frequently the case) he does so with the hand of a master, and gives forth the noblest strains of eloquence. As an illustration of this (we only wish our limits would permit us to give more) we have selected the following passage:

'In this connection, a caveat must be entered against that coarse and selfish utilitarianism which measures all things only by a material standard. This is the peril which I most dread in the impending crisis: that in the friction of these competitive industries the fine sense of honor which formed the beautiful enamel of Southern character may be rubbed away, to be followed by the swift decay of virtue, of which it was at once the protection and the ornament. Materialism, sitting in the schools and speaking through the forms of philosophy, is not, perhaps, much to be dreaded. It is too monstrous to be believed. It shocks our moral convictions, and startles the pride of self-love, to be told that thought is only a secretion of the brain — that the rapture and the pathos of grief are only currents of electricity along the tissues of the body. We can safely leave this to the instinct of human scorn, which resents as an insult such a libel upon our nature. But the spirit of materialism, infused into all the transactions of business and common life, is the angel of pestilence dropping the seeds of death from its black wing wherever it sweeps. It is this subtle and dangerous spirit which is at the bottom of that fearful demoralization that has spread like a leprosy over the land. It is rapidly displacing legitimate commerce by the silent invasion of its fixed laws, rendering the individual trader helpless in the grasp of a powerful combination controlling the market by irregular and unnatural methods, and

making it to depend upon the interest and caprice of large capitalists. It is corrupting public justice through venal juries, no longer impartially selected, but chosen from the hangers-on of courts, whose sole subsistence is the bribe of the wealthy litigant. It is filling the noble profession of the law with mendicant attorneys, prostituting the solemn priesthood of their office by opening the subterfuges of legal chicanery to villainy and fraud. It invades even the sanctity of the bench, and overwhelms judicial integrity by the pressure of political and commercial combinations. It is converting public office from a ministry of responsibility and trust into a place of emolument, where the perquisites to be enjoyed outweigh the duties to be performed. And, worse than all, it is sapping the truthfulness, the honesty, and honor of private life, and silently destroying the moral bonds by which society is held together. Through all its grades, from the highest to the lowest, every man is striving to outstrip his neighbor in the possession and exhibition of wealth; and the most sacred claims of love, and all the sweet charities and refinements of social life, are sacrificed upon the altar of universal greed.' (p. 22-23.)

Now, all this is, no doubt, as true in the main as it is eloquent. But there is in this eloquent passage one sentiment, at least, to which we cannot yield our assent. It is this: 'Materialism, sitting in the schools and speaking through the forms of philosophy, is not, perhaps, much to be dreaded. *It is too monstrous to be believed.*' By no means. There is nothing too monstrous to be believed, not only by the ignorant and vulgar, but by the educated, learned, and most influential members of society. Is not materialism, at this very moment, sitting in the schools, and, through the forms of philosophy, giving utterance to the heresies of a Darwin, a Huxley, a Spencer, a Tyndall, and a Mill, by which so many thousands of our fellow-men are seduced into fatal error?

'Too monstrous to be believed'! Too monstrous for belief, no doubt, as it appeared to the mind of Dr. Palmer; but as it appeared to the man who, of all the leading politicians of this country, exerted the greatest influence on its destinies, it was

anything but monstrous. It was, on the contrary, the simple, the exact, and the unquestionable truth. 'To say that a thing is not material is to say that it does not exist,' is the dogmatic utterance of Thomas Jefferson. If this be true, then is there in the wide universe nothing beside matter and local motion, and God himself is either a material being, or else a mere dream of divines and metaphysicians. Nothing more grossly materialistic than this can be found in Helvetius, or Condillac, or in any of the French ideologists, whom Mr. Jefferson so greatly admired, and whom the first Napoleon so greatly abhorred. Was it in spite of this fact, or only in ignorance of this fact, that Dr. Palmer, in the very Address before us, adopts 'the immortal Jefferson' as his great guide in preparing his message for 'the young thought and hope' of the South? It was many years ago that we first read, in the writings of Mr. Jefferson, the sentence, that 'to say a thing is not material is to say that it does not exist'; and, from that day to this, we have never ceased to repudiate the superficial dogmatist as a guide in philosophy. We deemed his opinion then, as we deem it now, 'too monstrous to be believed,' except by those who have deserted Christ to camp with Helvetius. But we have never, for one moment, doubted that, coarse and revolting as it is, it is an opinion 'much to be dreaded.' Behold, at this day, the Darwins, the Huxleys, the Tyndalls, the Spencers, and the Mills, by whom this debasing opinion is so warmly embraced and so eloquently espoused!

But, after all, to what does the passage from Dr. Palmer amount? To this, and to this only, an eloquent 'caveat' against the dread spirit of materialism, the angel of pestilence, which everywhere drops the seeds of death from the overshadowing sweep of its black wing. All this is very well, no doubt, and would be infinitely consoling, if *caveats* were only cures. But, unfortunately, they are of no more avail against the awful evils of 'the present crisis,' than they are against the devouring fury of earthquakes, or whirlwinds, or conflagrations, or wars, or pestilence, or famine. These evils just work on, degrading all they do not destroy, and heed our fine words, or glowing eloquence, as little as they do the idle winds.

Hence, although charmed, we are not edified by the Address of Dr. Palmer. It leaves us precisely where it found us. We still sit in darkness, in the region and shadow of death, without one additional ray of light, or hope, or joy, to gild the gloom around us. Nay, if anything, it deepens and intensifies this gloom, for it shows that if anything useful, or hopeful, may be said respecting 'the present crisis and its issues,' our guides do not know what it is. Hence, when we ask for a cure, they give us a 'caveat'; when we implore light, they send a shower of meteoric words, which gleam in the darkness for a moment, and then leave it denser than before; when, in the great agony of our distress, we go to them for a remedy, they only give us rhetoric — very fine rhetoric, it is true, and beautiful in its season; but, then, it is not exactly *the thing* for the present awful crisis.

What we need is, that some one will tell us, if any one can, the *causes* of the dark crisis which is now upon us. For it is an axiom with all doctors, whether doctors of medicine, or law, or divinity, that until the *cause* of a disease, a social disorder, or a moral evil, be ascertained and known, it is worse than idle to think about the remedy. This fundamental, this universal maxim, is perfectly well known to Dr. Palmer. Accordingly, he first seeks the great cause of our present troubles, and then suggests the remedy. The great cause of our troubles! This is the critical point of the inquiry. For, if the true *cause* be not found, it is evident that the remedy may, as usual in such cases, only aggravate the evil, and so prove far worse than a mere caveat against the crisis.

The great cause of our present troubles is, according to the Address before us, a departure from the political principles, or faiths, of 1787. These principles, or faiths, were right, sound, wise; and it was the departure from them which produced the tremendous convulsion of 1861, and the subsequent crisis. Hence the only remedy he knows, the only hope he cherishes, is to be found in a return to those 'original faiths,' and the reënthronement of the Constitution of 1787 as it came from the hands of 'the fathers.' 'If there be,' says he, 'any deliverance for us in the present crisis, it must be sought in a

return to those cardinal truths now so much in danger of going by default.' Now, if we ask, how this grand return is to be effected, and the fortunes of the country snatched from the jaws of 'the present crisis,' he points us — aye, however strange it may seem — he still points us to 'the virtue and intelligence of the people' as the only ground of hope!

'The only gleam of hope,' says he, 'amidst these dark forebodings is, that possibly yet, far down in the people's heart, both North and South, these original faiths may be slumbering still, beneath the prejudice and passion that are working out the behests of a bitter, persecuting party rule. Political heresies, however great, may not be sufficient to deepen into that final apostacy from which there is no recovery. Possibly yet, when the excruciating test shall put the virtue of the country upon its last probation, some master prophet will arise whose voice shall rouse these sleeping convictions into play, and the majesty of the people's will shall once more enthrone the Constitution upon its old supremacy.' (pp. 14–15.)

'Do you ask,' he continues, 'for the enunciation of those doctrines upon whose re-assertion the perpetuity of the Republic depends? They are written in letters of gold upon those great instruments of Confederation and Union drawn up by the first fathers of the State. They are in the catechism of every honest party by which this country has been ruled. They are engrossed upon every page of our history, until these last days of disaster and of shame. They are graven, as with a diamond, upon all the institutions of the land. I had supposed them to be woven into the very tapestry of the people's thought. But familiar as these principles may be, like the Twelve Tables to the ancient Roman youth, I choose this day to give them voice and tongue: if, perchance, the faint whisper may gather volume as it is borne upon the breeze, and, with its echoes rolling back from myriads of patriotic hearts, may fill the country with the sound. And you will pardon the timidity, springing from unacquaintance with political themes, which takes refuge in the exposition given by the immortal Jefferson. In his first Inaugural, upon the .th of

March, 1801, the following commentary on the doctrines of the Constitution was delivered: "About, fellow-citizens, to enter on the exercise of duties which comprehend everything dear and valuable to you, it is proper you should understand what I deem the essential principles of our government. I will compress them within the narrowest compass they will bear: Equal and exact justice to all men, of whatever state or persuasion, religious or political; peace, commerce, and honest friendship with all nations — entangling alliances with none; the support of the State governments in all their rights, as the most competent administrations of our domestic concerns, and the surest bulwarks against anti-republican tendencies; the preservation of the Federal Government in its whole constitutional vigor, as the sheet anchor of our peace at home and safety abroad; a jealous care of the right of election by the people; a mild and safe correction of abuses, which are lopped by the sword of revolution, when peaceable remedies are unprovided; absolute acquiescence in the decisions of the majority, the vital principle of republics, from which there is no appeal but to force, the vital principle and immediate parent of despotism; a well-disciplined militia, our best reliance in peace, and for the first moments in war, until regulars can relieve them; the supremacy of the civil over the military authority; economy in the public expense, that labor may be lightly burdened; the honest payment of our debts, and sacred preservation of the public faith; encouragement of agriculture, and of commerce as its handmaid; the diffusion of information, and the arraignment of all abuses at the bar of the public reason; freedom of religion, freedom of press, freedom of person under the protection of the *habeas corpus*; and trial by juries impartially selected. These principles," adds this eminent statesman, "form the bright constellation that has gone before and guided our steps through an age of revolution and reformation. They should be the creed of our political faith, the text of civic instruction, the touchstone by which to try the services of those we trust. And should we wander from them in moments of error and alarm, let us hasten to retrace our steps, and to regain the road which alone leads to

peace, liberty, and safety." How solemn and prophetic the warning, and how pertinent the appeal in the present crisis, uttered seventy years ago by the author of the Declaration of American Independence !'

Are these the principles, then — these the sacred and eternal foundations — on which all our hopes for the future are to rest? So are we most solemnly assured by Dr. Palmer. Having, in the peroration of his address, summoned around him the 'immortal shades' of the heroes, statesmen, and legislators of 1787, and of other great worthies of the Republic, he fervently exclaims: 'In their dread presence I solemnly declare that the principles of our fathers are our principles to-day; *and that the stones upon which the temple of American liberty was built are the stones upon which it shall be able to stand.* And you, gentlemen, representing the young thought and hope which must shortly deal with these mighty issues, I swear each one of you by an oath more solemn than that of Hannibal, not that you will destroy Rome, but that you will save Carthage. I charge you, if this great Republic, like a gallant ship, must drive upon the breakers, that you be upon the deck, and with suspended breath await the shock. Perchance she will survive it; but if she sink beneath the destiny which has devoured so many great kingdoms of the past, that you save from the melancholy wreck our ancestral faiths, and work out yet upon this continent the problem of a free, constitutional, and popular government.'

'Our ancestral faiths' constitute the burden of Dr. Palmer's song. 'They are the essential principles of freedom the world over, and can never be abandoned by us in any extremity to which we may be driven.' 'The existence of regulated liberty will depend upon the maintenance of our ancestral faith. My prayer in reference to this country is, that its institutions may be preserved *exactly as they came to us from a wise and patriotic ancestry.*' (p. 17.) Never does he weary, apparently, of lauding and magnifying 'these original doctrines of the American creed.' (p. 17.) 'Our ancestral faiths! the hope of the country! the hope of the world! the only gleam of hope!'

Alas! if this be true, then, to our minds at least, 'the only

gleam of hope' serves only to render 'the darkness visible.' When such hopes are cherished, and such words are used (as they always are) by all the old, time-serving politicians of the day, we are not at all surprised. They can do no better. They have, indeed, all their life been singing this same song about 'the people's virtue,' and 'the majesty of the people's will,' until their organs have become utterly incapable of any other tune. Let them sing on, then, and tickle the people's ears with their selfish song. What care they for truth? Are they not hardened and incurable? Ay, you may bray them in a mortar, ten times worse than they have just been brayed, and they will come out again, even as they have just done, singing the same old song about 'the majesty of the people's will,' and holding out unclean hands for the people's alms. It is their trade. They sing for pay. In the streets and in the market-places, on the hustings and in the halls of Congress — everywhere and at all times, both before and since the late flood, we have seen them grinding, from their one-tuned barrel-organs, the same old, everlasting, melancholy music to 'the majesty of the people's will.' We can, and do, listen to them without surprise, though not without tears. But when we hear this song, as we now do, from a learned, brave, disinterested, heroic divine, whose fundamental doctrine of the natural depravity of mankind has received so fearful a demonstration in the career and fall of this country, giving the infidel philosophy of 'the immortal Jefferson' to all the angry winds of heaven, how is it possible to listen without the most profound astonishment and grief? If he had said, that our only hope is in a return to faith in God, he would, perhaps, have given utterance to the very greatest lesson which is inculcated by the awful misery and darkness of the present crisis. But, in spite of the most solemn teachings of God's word, and the most terrific demonstrations of his providence, he still puts his faith in man. What! 'the faith of the fathers;' 'the American creed' of 1787! Why, as we have already demonstrated in the pages of this *Review*,¹ it was precisely this faith of the fathers, this absurd and insane belief in the sovereignty and

1 For April, 1867.

‘majesty of the people’s will,’ which led to the late war, and plunged this continent into the abyss of crime and corruption, misery and darkness, which make up the anti social hell of the present crisis. It is just because the ‘ancestral faith’ was wrong then, that their work is rotten now. It is just because ‘the great temple of American freedom,’ as it is called, was built, not upon the Rock of Ages, but upon the treacherous, shifting sands of man’s fallen nature, that its fall startled the universe with the crash of its thunders. O, ye angels and ministers of grace, defend us! and, as messengers of mercy from Almighty God, keep us henceforth, and forevermore, from the fatal delusion of putting our trust in princes or in peoples. Our faith is in God.

There is, if we mistake not, more wisdom in one paragraph of Aristotle’s *Politics*, than in all ‘the faiths of the fathers’ of 1787, or in all the books, pamphlets, and speeches which have been written to defend them. Give the supreme power to one man, says he, and he will oppress the many; or, in the emphatic language of his great disciple, the immortal Hooker, ‘one man’s rule is all men’s misery.’ Give the supreme power to the few, and they will oppress the many; or give it to the many, and they will oppress the few. What shall we do, then? Give it not, says he, to man at all, but so divide it between the one, the few, and the many, that neither shall be able to oppress the others. That is, so give it to the one, the few, and the many, that the law, and not man, shall be supreme. For — these are his very words — ‘he who bids the law to be supreme, makes God supreme; but he who entrusts man with the supreme power, gives it to a wild beast.’

Now, this is precisely what the Solons of 1787 did — they entrusted man with the supreme power. They entrusted the people with the supreme power, and bade — fatal delusion! — all ‘the young thought and hope’ of the New World bow down before the sublime ‘majesty of the people’s will.’ That is, in the awful words of Aristotle, they gave it to ‘a wild beast’ — the wild beast, namely, which, coming upon Athens in all the pride and pomp of her glory, rent and tore her once beautiful, but then bleeding, form into fragments, making her

a spectacle of mourning and sorrow to men and to angels. The wild beast, too, which seized upon Rome—the proud ‘Mistress of the World’—and left her mangled carcass a stench and an abomination to the universe.

These are not *figures* merely, they are facts. They are recorded *as such*, not in the books of men merely, but also in history; in the great book of God’s providential dealings with the kingdoms of earth. Why, then, did the Solons of 1787 inaugurate, in this country, the reign of this terrible wild beast? And why did their descendants, the leaders and guides of the Republic, train, develop, and excite to madness the savage nature of the wild beast, until, in the fierceness of its rage, it burst the feeble barriers of the Constitution, and, planting teeth and claws in the vitals of the nation, it lapped up her very best life-blood like water? This question is easily answered: *They did not know what they were doing.* Having derived their wisdom, not so much from the study of history, or God’s word, as from the works of Voltaire, J. J. Rousseau, Turgot, and other infidel writers of the eighteenth century, they believed in ‘the inherent purity of man,’ and in the power of the State to develop, *ad libitum*, ‘the indefinite perfectibility of his nature.’ This, as we have already shown, was ‘the great error of the eighteenth century.’¹ It is reserved for God, and for God alone, by means of the State, as well as by all other conceivable means, to develop ‘the indefinite perfectibility of man.’ Hence, when the State, taking the great work out of the hands of God, endeavors to develop ‘the indefinite perfectibility of man,’ she only develops his ‘indefinite corruptibility.’ This was the great error of the Solons of 1787. Though the legislators for professedly Christian peoples, there is not one word in all their writings, and there seems to have been not one thought in all their designs, evincing a wish ‘to make God supreme.’ This word, this thought, this design, is stamped on the politics of the grand old heathen Aristotle; it is utterly ignored in ‘the American creed’ of 1787. The authors of that creed put their faith in

1 See *Southern Review* for Jan., 1869, Art. 1.

man; and this, the great sin of their legislation, has found us out with a vengeance.

We have said that it is not a mere figure of speech, but a fact of history, that Athens was ruined, and laid waste, by the sovereignty of the people, or the reign of the majority. This fact is familiar to all who have studied, or even read, the great works of Boeckh, K. O. Müller, Hermann, Wachsmuth, Neibuhr, or Thirwall. Thus, to quote only one authority, Neibuhr says: 'Pericles and Aphialtes both aimed at extending the power of the commonalty; and we may say of both of them, that they did not know what they were doing, for there can be no doubt that through their measures they injured the Republic.'¹ But this was only the beginning of sorrows. Our author continues: 'Greece, in its unhappy career, had even then reached that point where there existed no other criterion for estimating the worth of men but wealth. At first the noble houses constituted the State of Athens (then reigned the tyranny of the few); afterward the commonalty, which had risen by their side, and both together formed the whole body of the people; just as at Florence, the house stood on one side and the commune on the other, and afterward, united in seventy-two houses, they formed *il popolo*. Powers had thus been opposed to each other which could influence and check one another.' Athens had then reached the climax of freedom. But the picture darkens. For 'now one branch of the citizens, the houses, had entirely disappeared, and this evil could not be remedied.'² Then began the terrible and debasing despotism of the Demos, whose hideous features so many writers have described, but no one with greater eloquence and graphic power than Hugh S. Legare, of South Carolina. In the simple, but solid and imperishable words of Aristotle: 'Democracies will be most subject to revolutions from the dishonesty of their demagogues.' . . . When 'the election is with the people, the aspirants for office, to flatter them, *endeavor with all their power to make the people superior to the laws*.'³ . . . 'For there (in a democracy) the

1 Lectures on Ancient History, Vol. II, p. 43.

2 Ibid., p. 49.

3 Book V, Chap. V.

people's voice becomes that of a king, the whole composing the body; for they are supreme, not as individuals, but in their collective capacity. Homer also says,

"Ill fares it where the multitude hath sway."

Now, when the people possess this power, they desire to be altogether absolute; and such a people become analogous to tyranny among the forms of monarchy, for their manners are the same, *and they both hold despotic power over better persons than themselves.* For their decrees are like the others' edicts, and a demagogue with them (the people) is like a flatterer among the others; *but both these two classes abound with each, flatterers with tyrants, and demagogues with such a people.* And to them (the demagogues) it is owing that the supreme power is lodged with the people, and not in written laws, *for they bring everything before them.* Any one, therefore, may, with great justice, blame such a government by calling it a democracy, and not a free State; for where the government is not vested in the laws, then there is no free State, *for the law ought to be supreme over all things.*¹ Ay, we repeat, for 'he who bids the law to be supreme, makes God supreme; but who entrusts man with the supreme power, gives it to a wild beast.' Such is the judgment of Aristotle, the greatest and most practical of all political thinkers, who, after he had carefully studied and written the history of 158 republics, sat down to compose his *Politics*.

Equally emphatic is the language of Bishop Thirwall. 'The principle of legal equality,' says he, in his *History of Greece*, 'which is the basis of democracy, *was gradually constructed in a manner which inverted the wholesome order of nature,* and led to a long train of *pernicious consequences.* The administration of the commonwealth came to be regarded, not as a service in which all were interested, but for which some might be qualified better than others, but as a property, in which each was entitled to an equal share. In proportion as the assembly, or large portions detached from it for the exercise of judicial functions, drew all the branches of the sovereignty more and more into their sphere, the character

1 Book IV, Chap. II.

of their proceedings became more and more subject to the influence of the lower class of the citizens, which constituted a permanent majority. And thus the democracy, instead of the equality which was its supposed basis, in fact, established the ascendancy of a faction, which, although greatly preponderant in numbers, no more represented the whole State than the oligarchy itself; and which, though not equally liable to fall into the mechanism of a vicious system, was more prone to yield to the impulse of the moment, more easily misled by blind or treacherous guides, and might thus, as frequently, though not so deliberately and methodically, trample, not only on law and custom, but on justice and humanity. This disease of a democracy was sometimes designated by the term *ochlocracy*, or the dominion of the rabble.

The career of the Athenian *demos* repeated itself in Rome. It was only after the lapse of ages, and through many conflicts and struggles, that the people of Rome acquired the share of power in their own government to which they were justly entitled. But power never respects the limitations imposed by reason or justice, or the conditions of civil liberty. Like the daughters of the horseleech, it never cries enough, but always, give! give! This desire was gratified, and the fate of the Republic sealed by the *Lex Hortensia*.

Neibuhr says of the Hortensian law: 'It establishes a true democracy, inasmuch as it lays down the rule that in legislative measures . . . the *Plebes* could pass any decree; at the same time, the power of the *curies* was taken away. This is a decided victory of the democracy.'¹ A decided victory for the democracy, but a fatal blow to the Republic. For, from the time this decree was enacted, 'there was but one dictator, Hortensius, down to the time of Cicero, and likewise only one Hortensian law. This resolution was an extraordinary event' (forever memorable in the annals of Rome), for 'it was the first step toward the fall and breaking up of the Roman State. Yet the condition of Rome was so sound that a hundred and fifty years passed away before the mischief displayed itself.'²

¹ Lectures on Roman History, Vol. I, p. 322.

² Lectures on Roman History, Vol. III, p. 540.

The many, once possessed of the supreme power, never manifested, in their collective action, the higher and nobler instincts of humanity, but the lust of dominion, the greed of gain, and the love of flattery, seemed to possess them wholly. Then it happened at Rome, as it had always happened before, and as it has always since happened, the majority pursued its own sovereign will alone, regarding the rights of neither gods nor men. The body politic, in short, was developed, or rather transformed, into the 'wild beast' of Aristotle. De Tocqueville, in spite of all his fine democratic theories, beheld and deplored the existence of the monster—the same in all ages!—rampant and raging in this country as early as 1832. The majority, invested with the supreme power, was even then, in the language of the great Frenchman, a cruel and remorseless tyrant, that 'heeded not the outcries and complaints of those whom it crushed upon its path.' No falser word was ever uttered, no more fatal heresy was ever commended to 'the young thought and hope' of any land than the declaration of 'the immortal Jefferson,' that 'absolute acquiescence in the decisions of the majority' is 'the vital principle of republics, from which there is no appeal but to force.' If the young men of this country shall, by any means whatever, be induced to worship the wild beast of Aristotle, or the god of Thomas Jefferson, then are we far, very far, from the end of our present darkness and troubles. Instead of deliverance and light, then shall we, indeed, see 'below the lowest depth' a 'lower deep still threatening to devour' us. May God, in his infinite mercy, save this country, this great continent, from the incalculable curses and calamities of all such horrible heresies.

We must, however, say one word in justice to the memory of Mr. Jefferson. He had just been elevated to the Presidency of the United States, the high goal of his ambition, and the sweet resting place of all his loftiest aspirations. How ungracious in him, then—nay, how very ungrateful—if, under such circumstances, he had barely hinted at any of the teachings of history, or philosophy, respecting the nature of the huge animal by which he had just been so highly exalted

He was evidently, in fact, more disposed to look at that animal as the most beautiful of all living creatures, than as the most terrible of all monsters. It was in this very amiable and loving mood that he returned the compliments of the majority, by declaring that 'absolute acquiescence' in its will is 'the vital principle of republics, from which there is no appeal but to force.' We should not judge him too harshly, then, if, on so interesting and so sublime an occasion, he failed to allude to any of those checks of the Constitution, which had been expressly ordained as restraints on the will of the majority. But even if we could wholly condone *this very amiable weakness of Mr. Jefferson*, we cannot forget that his 'first Inaugural' indulges neither in the language nor in the spirit of the Constitution of 1787.

Dr. Palmer notices, indeed, this very grave omission in Mr. Jefferson's analysis of the Constitution. 'It omits to name,' says he, 'the indispensable necessity of some adequate provision for protecting the rights of minorities.' But he apologizes for this omission, by asserting that 'the history of that day had not so clearly demonstrated,' as subsequent history has done, the necessity of some such provision. This seems to be a mistake on the part of Dr. Palmer himself. The history of that day — nay, the history of all time — had as clearly as possible demonstrated the absolute and indispensable necessity of precisely such a provision. Mr. Jefferson may have been ignorant, if Dr. Palmer pleases, of that overwhelming demonstration of all history — there are certainly no signs of any such knowledge in his Inaugural; but it would be gross injustice to 'our ancestral faiths,' to 'the American creed' of 1787, to suppose that it is fairly reflected in that production of Mr. Jefferson's pen, or in any other portion of his writings. It was one of the prime articles of those faiths, of that creed, that there can be no freedom, no peace, no rest, no happiness for minorities in a republic, unless its provisions afforded ample protection for their rights against the well-known tyranny of majorities. The only question was as to what provision would be adequate to such a purpose. On this point there was, in fact, no little diversity of opinion. The majority of

the Convention of 1787 believed, of course, that the provisions enacted by them would be adequate to the protection of such rights. But there was one man, at least, in that Convention who believed that all these provisions would prove too feeble to resist 'the amazing violence of the democratic spirit,' and who, accordingly, predicted that time would demonstrate the Constitution of 1787 to be 'a frail and worthless fabric.' That one man was Alexander Hamilton.

Dr. Palmer, looking at 'our ancestral faiths' through the medium of Mr. Jefferson's Inaugural, supposes that if we should return to those faiths, and try 'the grand experiment' over again, we should possess some important information which history, at that day, had not so clearly demonstrated as it has since done. We should know, forsooth, far better than the legislators of 1787, 'the indispensable necessity of some adequate provision for protecting the rights of minorities' against the tyranny of majorities! If any one political principle, in fact, was more clearly known to those legislators than any other, it was this 'indispensable necessity' of protecting the rights of minorities. History, it is true, has since re-demonstrated this principle, but history did not begin in the year 1787. Indeed, all preceding history, and our own preceding history in particular, had so clearly demonstrated this principle, that it was perfectly understood by the framers of the Constitution of 1787. No one who has read the pages of this *Review* could possibly entertain the shadow of a doubt respecting the truth of this assertion. If, indeed, any one had only read the two following pages of the *Southern Review*, for April, 1867, he could not have fallen into, or sanctioned, the error under consideration. 'There was not a man in the Convention of 1787,' say the pages referred to, 'which assembled in Philadelphia to frame the Constitution of the United States, who did not assume the tyranny of the majority as a first principle or postulate. Thus, said the ablest member of that Convention, "Give all power to the many, and they will oppress the few; give all power to the few, and they will oppress the many." Nor was there a single delegate to that Convention, nor a single leading statesman in America, who, at that time,

dissented from the above truisms laid down by Alexander Hamilton. They were then universally received as first principles by the leading men of all sections and all parties; by John Adams of Massachusetts, and by James Madison of Virginia, no less than by the illustrious Scotchman just quoted. Every speaker of the Convention of 1787 could say, as confidently as Hamilton himself, "Give all power to the many, and they will oppress the few." "One great object of government," said the most illustrious member of that assembly — and one who, by way of eminence, has been called "the father of the Constitution" — "is a safeguard against the oppressions of the majority." Indeed, the thinking men in democratic America, who had been brought up and educated under the tyranny of the majority, needed no particular facts or examples to convince them of its reality. They knew it as they knew the existence of the elements around them. In submitting the plan of a Constitution to the Convention, Governor Randolph said that the "object was to provide a cure for the evils under which the United States labored; that in tracing these evils to their origin, every man had found it in the turbulence and follies of democracy;"¹ by which he meant, as his speech shows, the violence and injustice of the majority. Hence, said he, "some check must be sought for" against this turbulence and folly of democracy, against this tyranny of the majority. This was, in fact, the great fundamental conception of the architects of the Constitution of the United States. In submitting that instrument to the people for their adoption, the authors of *The Federalist* made known this as the great fundamental design of its authors. "Complaints are everywhere heard," say they, "from the most virtuous and considerate citizens, equally the friends of public and private faith, and of public and personal liberty, that our governments are too unstable, that public good is disregarded in the conflicts of rival parties, and that measures are too often decided, not according to the rules of justice, and the rights of the minor party, but the superior force of an interested and overbearing majority."² . . . "To secure the public good," they add, "and private

¹ Madison Papers, p. 887.

² *Federalist*, No. X.

rights against the dangers of such a faction [of such an 'interested and overbearing majority'], and at the same time to preserve the spirit and form of a popular government, is the great object to which our inquiries are directed. Let me add, that is the great desideratum, by which this form of government can be rescued from the opprobrium under which it has so long labored, and be recommended to the esteem and adoption of mankind."¹ Thus, in the opinion of James Madison, "the father of the Constitution," the great object of the framers was to set such bounds and limits to the power of the majority as to prevent or "control the effects" of its well-known inherent and incurable disposition to tyrannize over and oppress the majority.'

'Again, in the Virginia Convention of 1788, called to ratify the Constitution of the United States, he said: "On a candid examination of history, we shall find that turbulence, violence, and abuse of power, by the majority trampling on the rights of the minority, have produced factions and commotions, which, in republics, have more frequently than any other cause produced despotism. If we go over the whole history of ancient and modern republics, we shall find their destruction to have resulted generally from that cause. If we consider the peculiar situation of the United States, and what are the sources of that diversity of sentiment which pervades its inhabitants, we shall find great reason to fear that the same causes may terminate here in the same fatal effects which they produced in other republics. This danger ought to be wisely guarded against."² Thus, up to the year 1787, the tyranny of the majority was the great central fact of American history (as it had been in the history of all former republics), with reference to which the Constitution of that year was formed, and its fundamental provisions arranged.'

How, then, could Dr. Palmer have contrived to overlook the fact, that such was the great design of 'the fathers' of 1787? How could he have supposed, for a moment, that they were comparatively ignorant of 'the indispensable necessity of some adequate provision for protecting the rights of minorities'?

1 *Federalist*, No. X.

2 *Elliott's Debates*, Vol. III, p. 109.

The answer is easy. Instead of going to the fountain-head for information — instead of reading the works of ‘the fathers’ themselves — in order to ascertain ‘our ancestral faiths,’ he went to Mr. Jefferson, by whom those faiths were never understood, or else ignored whenever it suited his purpose. It certainly did not suit his purpose, in his inaugural of 1801, to make the most distant allusion to the great leading article of the ‘ancestral faiths,’ that the majority is, and always has been, a relentless tyrant, whose outrages and ravages have ruined all former republics, and whose despotic temper must, therefore, be repressed, and kept within bounds, by provisions for the protection of the minority. Hence, in his celebrated inaugural, there is not one word, or syllable, respecting this great article of ‘our ancestral faiths.’ On the contrary, that state-paper inculcates ‘absolute acquiescence’ in the will of the majority, as ‘the vital principle of republics, from which there is no appeal but to force.’ The vital principle of republics! If we may judge from history — if we may call upon the fathers themselves as witnesses — then is it the plague-spot of republics, the fatal touch of doom to all their freedom and their glory. The vital principle of republics! Indeed, if the legislators of 1787 had recognized and acted on any such principle, the Constitution would have been the most contemptible of all the creatures of human imbecility.

We are told, too, that, under the Constitution, there is no appeal from the will of the majority, except to force. From that will, when expressed by its constitutional organ, the House of Representatives, there is an appeal to the Senate, whose power is held by the minority of the people. In that body, as in the English House of Lords, the minority may check and control the will of the majority. Nor is this all. For the concurrent decision of both Houses of Congress may be checked and controlled by the veto of the President — by the decision of one man; after which no Act of Congress can become a law without a vote of two-thirds of each of its co-ordinate branches. Nor does the appeal end here. For the Supreme Court may, in the exercise of its constitutional authority, pronounce an Act of Congress, though sanctioned by

the President, null and void. In other words, that august tribunal may strike an Act of Congress, expressing the united wills of the majority, the minority, and the President, powerless and lifeless at its feet. It was, then, the object of the framers of the Constitution, not to institute the absolute rule of the majority, from which there should be no appeal but to force, *but to make the laws supreme*. Nothing was more dreaded by them, indeed (though not dreaded by Mr. Jefferson at all), than the reign of the majority, which, as they well knew, had ruined all former republics. Hence, they so divided the powers of government between the one, the few, and the many, that the Constitution and the laws might be supreme. The design was good, but the execution weak. When, in 1800, the democratic majority came into power like a flood, then the Constitution, with all its feeble barriers, was doomed to give way.

Mr. Jefferson led all its dusky hosts to fatal onslaught. His first inaugural was the *Lex Hortensia* of the Republic. The idea of trusting the majority — the greatest of all tyrants — with the supreme power, never entered into the imagination of ‘the fathers.’ This fatal idea, this horrible heresy, was the mad dream of a later day, when a reckless race of rhetoricians and deceivers, with ‘the immortal Jefferson’ at their head, rose up to flatter the multitude, and to invest that ‘king of terrors’ with all power. The Constitution was no more; or, if it existed at all, it was only as a fine theory on a piece of paper. Mr. Everett, in one of his grand orations, solemnly declared, that the majesty of the people’s will was ‘the rule of government.’ This heresy ran its career, illustrating at every step, as all former history had done, the tyranny of the majority; and, finally, reached its climax in the person of Mr. Lincoln. Hence, when he came into power, so completely had all idea of the Constitution disappeared from the minds of men, that he laid it down, in his first inaugural, as an unquestionable and self-evident maxim, that ‘the minority must submit to the majority, or the majority to the minority.’ Where, then, was the Constitution which required, not the minority to submit to the majority, but all parties, and above

all the majority, to submit to the Constitution itself as the supreme rule of government, 'from which there is no appeal but to force?' Gone, absolutely gone, from the minds of men, and forgotten! Ignored, neglected, and despised at first, it was then abhorred and repudiated, as 'an agreement with death and a covenant with hell.' The wild beast of Aristotle was unchained, and displayed, on a scale never before witnessed, the hellish nature of its worse than savage propensities. Rioting in the blood of millions with delight, this wild beast, elated with the possession of power and maddened by opposition, exhibited scenes of horror at which, to use the words of a great English statesman, 'the civilized world stood aghast almost to incredulity.' Shall we, then, have that bloody drama — that appalling tragedy — enacted over again, by a return to 'the faiths' of 'the immortal Jefferson?'

The faiths of Jefferson! No one ever doubted, not even Dr. Wayland, that the word of God enjoins upon slaves 'obedience to their masters.' But yet 'the immortal Jefferson' declared, that if they should rebel, that if they should rise up and murder their masters, 'the Almighty has no attribute which would lead him to side with the whites.' That is to say, the Almighty has no attribute which could induce him to side with his own law, or disapprove the dark assassin's knife! Now, whence this strange conclusion? It comes — most assuredly — it comes, not from the word of God, but from the word of Lucretius, Locke, Rousseau, and Jefferson, that all men are by nature 'free and equal.'

No American state-paper was ever more popular than Mr. Jefferson's first inaugural, except the Declaration of Independence. The politicians of the day, and all the parasites of power, made the universal air vocal with the praises of that inaugural; but the Declaration of Independence was their bible. It was not upon this bible, it is true, that they took the oath to support the Constitution; but it was, nevertheless, from this bible that they drew their ideas of reform, and inspiration to do their deeds of darkness. As in the case of the inaugural, so in that of the Declaration of Independence, its most obnoxious clause, its most dangerous heresy, is precisely

that which became the most popular with the masses, because it most flattered their pride, and filled their heads with notions of the sublime ‘majesty of the people’s will.’ The reader need not be informed to what clause of the Declaration of Independence we here refer. The ‘great cause of seditions,’ says Aristotle, ‘is this idea of equality.’¹ How fearfully have these words, more than two thousand years after they were uttered, been fulfilled and verified in this country! It was this idea, ‘this aiming after an equality,’² as every one knows, that fired the blood of ‘the wild beast,’ and maddened his ferocious passions.

‘Duroverai, Claviere, and myself,’ says M. Dumont, ‘were named by Mirabeau to draw up that celebrated declaration (*i. e.*, the French Declaration of Rights). During that mournful compilation, reflections entered my mind which had never before found a place there. I soon perceived the ridiculous nature of the undertaking. A declaration of rights, I immediately saw, may be made after the proclamation of a Constitution, but not before it. . . . Such general maxims are highly dangerous: you should never bind a legislature by general propositions which it afterward becomes necessary to restrain or modify. “Men,” says the declaration, “are born free and equal.” That is not true; they are so far from being born free, that they are born in a state of unavoidable weakness and dependence. Equal—where are they? where can they be? It is in vain to talk of equality when such extreme difference exists, and ever must exist, between the talents, fortune, virtues, industry, and conditions of men. In a word, I was so strongly impressed with the absurdity of the declaration of the rights of man, that for once I carried along with me the opinions of our little committee; and Mirabeau himself, when presenting the report to the Assembly, ventured to suggest difficulties, and to propose that the Declaration of Rights should be delayed till the Constitution was completed.’ . . . ‘But who is this,’ said the Jacobins, ‘who seeks to employ his ascendancy over the Assembly, to make us say yes and no alternately? Shall we be forever the puppets of his contradic-

1 *Politics*, Book V, 2, 3.

2 *Ibid.*

tion?" There was so much reason in what he had newly advanced, that he would have triumphed if he had been able to bring it out; but he abandoned the attempt at the very time when several deputies were beginning to unite themselves to him. The deplorable nonsense went triumphantly on, and generated that unhappy declaration of the rights of man which subsequently produced such incredible mischief. I am in possession at this moment of a complete refutation of it, article by article, by the hand of a great master, and it proves to demonstration the contradictions, the absurdities, the dangers of that seditious composition, which of itself was sufficient to overthrow the Constitution of which it formed a part, like a magazine placed below an edifice, which the first spark will blow into thin air.'¹

The declaration of the rights of man did, in fact, blow the very democratic Constitution of France 'into thin air,' because it did not sufficiently recognize the equality of all men. Another Constitution, still more democratic than the first, was formed; but, in about two years, it was also blown into thin air by another explosion of the same magazine. Now, if the wise Dumont, instead of 'the immortal Jefferson,' had drawn up the American Declaration of Independence, he would have omitted its 'deplorable nonsense,' that 'all men are born free and equal,' which first arraigned the Constitution of the United States as 'an agreement with death and a covenant with hell,' and then 'blew it into thin air.' Shall we, then, after all we have seen and suffered of 'the incredible mischief' wrought by the 'deplorable nonsense' of Mr. Jefferson, return to his 'faiths' as our 'only gleam of hope' and ark of safety? God forbid!

We must, we are told, return to 'our ancestral faiths.' That is the only path of safety, the only hope of the country. But here, for ourselves, we are constrained to complain, that the directions of our guide are not sufficiently specific, clear, or discriminating. 'I solemnly declare,' says he, 'that the principles of our fathers are our principles to-day, and that the stones

¹ Memoirs of Mirabeau and of the first Legislative Assemblies, by Etienne Dumont, pp. 141, 142.

upon which the temple of American liberty was built are the only stones upon which it shall ever be able to stand.' Why so? How do we know? What were 'our ancestral faiths,' 'the principles of the fathers,' or where may they be found? In Jefferson's grand Inaugural of 1801, or in the Declaration of Independence? In which of the two hostile schools into which 'the fathers' were divided shall we seek them—in the English school, with Washington, and Hamilton, and Madison, and Mason at its head, or in the French school, with Jefferson, and Madison, and Franklin at its head? Shall we embrace the creeds of both schools, however conflicting, or only one? If the latter, which creed shall we prefer?—the French creed, with all its anarchic maxims; or the English creed, with all its lessons of practical good sense? On these points, as well as on many more, our guide leaves us quite in the dark, so that, if we determine to follow his instructions, we shall not know where to look, what to think, or how to act. Shall we, then, follow his example? Shall we allow our 'timidity, springing from inacquaintance with political themes,' to take 'refuge in the exposition (of our ancestral faiths) given by the immortal Jefferson?' Here, again, we are very greatly at a loss; for if his 'inacquaintance with political themes' is so great, how do we know but it would have been better—ininitely better—if his 'timidity' had taken refuge in silence?

Ah, if words, if eloquent and burning words, could save this great Republic, then would Dr. Palmer be its savior. But if words, however eloquent, be the remedy we need, it must be on the principle of *similia similibus curantur*; for words—high-sounding and eloquent words—have certainly been one of the chief causes of our ruin. This ruin sprang, too, as much from the rhetoric of 'the immortal Jefferson,' as from that of any other man that ever lived. The character of Mr. Jefferson's mind was, indeed, like that of Mirabeau, as described by his great friend and admirer, M. Dumont. 'Mirabeau,' says Dumont, 'always satisfied with a happy expression, never gave himself the trouble to get to the bottom of any subject, and never would go through the toil to put himself

in possession of facts sufficient to defend what he advanced.' Such precisely was the character of Mr. Jefferson's mind. Hence, as we have already seen, his happy rhetoric laid the foundations of our ruin. It is for this reason that we so deeply regret being compelled to believe that our author, in the preparation of the Address before us, bestowed more labor and painstaking on the dress of his thoughts than on the thoughts themselves. This was, during the palmy days of the Republic, the great vice of our most popular leaders, not one of whom ever submitted to the intense toil of getting to the bottom of the great subjects discussed by them. But the new era requires, it seems to us, a new style of intellectual *toil* and *thinking*. It requires an amount of reading, a mighty toil of research, and a patience of investigation, compared with which the greatest intellectual efforts of our past are but as a child's play of words.

If, in the Address before us, we could only discover any signs of this kind of faith, or this kind of work, we should, indeed, gladly hail the production as a favorable omen, as a cheering hope, for our future. But it seems to us no better than, if as good as, the old Jeffersonian rhetoric. It is still words, words, words. The writer advances propositions which he seems utterly unable to defend, much less to demonstrate. The several propositions, for example, which he advances in support of his first great fundamental 'canon' are, if we mistake not, striking illustrations and proofs of the justice of our criticism. 'There is old England,' says he, 'rising in her grandeur from the level of European history, like her own island from the bed of the sea; carving her destiny and working out her free constitution through seven centuries of stern conflict; keeping her steady march through changes of dynasty, through the wrench of civil wars as lasting as that of the Grecian Peloponnesus, against the jealousy of continental rivals who have combined to sweep her from her island throne. What has wrought this marvel of progress and of power, *but her constant faith in the great principles of civil freedom which she had undertaken to support?*'

Now, this passage, as it appears to us, lacks only one thing

to render it grand and beautiful, and that one thing is truth. The notion that England, for seven centuries, kept her eye fixed, with constant faith, on the idea of civil freedom, as the grand object of pursuit, is purely chimerical. It has no foundation whatever in history. It is a sheer creation of the imagination. The simple truth is, that England found herself in possession of the inestimable boon of civil freedom before she knew what it was, or how it was obtained. The people of England, it is true, have always possessed two great qualities, to which, under God, they owe their civil freedom — namely, an unconquerable energy of character, and a hatred of being oppressed. But the hatred of being oppressed, however intense, is neither the idea nor the love of civil liberty. The great Barons at Runnymede, about whose love of civil freedom so much nonsense has been uttered, knew no more about the idea of such freedom than a horse does about the mechanism of the heavens. But hating, as they did, the oppressions of the odious and despicable John, they resolutely asserted an independence for themselves and for their serfs. Yet, for all this, the spirit of tyranny reigned in their own bosoms, as well as in the heart of the king whom they opposed, and from whom they wrested *Magna Charta*. If, at the same time, they had possessed the supreme power, they would have shown themselves as great tyrants as did the noble houses of Greece, or the aristocracy of Rome, in the days of their unbridled ascendancy. But when, in the struggle for independence, the powers of government came to be so divided between the king, the aristocracy, and the people, that neither could oppress the other, then the conditions of civil freedom were fulfilled, and the great blessing was enjoyed. The blessing was possessed before it was consciously aimed at, or even understood. It is one of the finest remarks of Donoso Cortez, or of any other writer, that liberty has never been the direct result of the will of man, but the indirect result of the impotency of different powers in the struggle of each to gain the ascendancy. This profound truth, which is so fully illustrated and confirmed by all history, and particularly by the history of England, is utterly irreconcilable with the fine passage of Dr. Palmer, which repre-

sents the most glorious specimen of civil freedom on the globe as 'the direct result of the will of man,' by whom it was constantly conceived and consciously pursued through the long struggle of seven centuries. It may be, and no doubt is, a little humiliating to the pride of man, to be told that he is never the author of his own freedom; but, then, this view, however unpleasantly it may affect the vanity of legislators, or the architects of civil society, has, at least, this advantage, that it leaves some room in the world for the good providence of God. It was the good fortune of England, not her wisdom, that she passed through the Feudal Ages and came out with an aristocracy so deeply rooted and so firmly established that it could neither be plucked up by the crown nor trampled under foot by the people.

How often have we, no less than Dr. Palmer, indulged in like magnificent dreams! How often have we imagined — and who has not? — that the legislators of 1787 set before themselves the radiant image of civil freedom, and conscientiously directed all their labors to secure, as far as possible, its most perfect realization! Yet this, too, is merely a magnificent picture, drawn from the imagination, and not from history. If we only raise the veil and look at the workmen in their shop, we shall discover, not an assembly of demigods devising and planning the good of the human race, but only a race of mortal men engaged in a most unreasonable, not to say fierce, struggle for power. Upon a calm survey of its proceeding, Alexander Hamilton, himself a member of the body, made the following reflection: 'The truth is, this a contest for power, not for liberty.' If, indeed, any one State or class of States, if any one party or section, could, in that contest, have had its own way, or secured the share of power for which it struggled, then would no liberty have been ordained by the labors of the assembly. On the contrary, the powers of government would have been so unequally and unfairly distributed, that tyranny and oppression must have been the inevitable result. The liberty established by that assembly, then, was not the direct result of the will of man, but the indirect result of the impotency of different and conflicting wills. Order did,

it is true, arise out of the confusion, and liberty out of the contest for power, but this result was not due to 'the direct will of man.'

'It is amazing,' says Dr. Palmer, 'what outward perils a State may survive, and what inward corruptions its inherent life may slough away, so long as it remains true to its primitive and hereditary faiths.' Truly great, then, and godlike is the power of 'hereditary faiths.' Behold old England (to use the author's own illustration) surviving her outward perils, and sloughing away her inward corruptions by her inherent life, or her constant faith in civil freedom! But are we sure of this? Was it her faith in civil freedom, or her faith in God, that has saved her from so many outward perils, and cured her of so many inward corruptions? Was it by the power of her 'inherent life,' or by the good providence of God, and the influence of his Word and Spirit, that old England has risen 'in grandeur from the level of European history, like her own island from the bed of the sea'? We are quite sure that whatever Dr. Palmer may say as a rhetorician, or an orator, he could answer these questions, if put to him as a Christian divine and serious thinker, precisely as we ourselves would answer them. Is it not evident, then, that in the grand flow of his words, in the majestic march of his rhetoric, he has lost sight of the departures and the bearings of his thought? He certainly had a right to chose his own subject, and to omit in its discussion, if practicable, all allusion to the great truths of religion; but he had no right to deny or contradict, either directly or indirectly, any of those great truths.

England, having always adhered to her 'primitive and hereditary faiths,' especially to her faith in civil freedom, made sure of her present grandeur and glory. Rome, on the contrary, in consequence of her apostacy from her republican faiths, became the prey of corruption. The whole Address, indeed, proceeds on the supposition that 'political apostacy' from 'the faiths of the fathers' is first in the order of nature, and after that the decline in morals. But this, if we have not misread the lessons of history, philosophy, and Revelation, is just to put the cart before the horse, to invert the true order of na-

ture, and to reason quite at random respecting the relation of events in the world. Corruption comes first, and then follows the loss of light, faith, hope. In the decline and fall of States, as well as of individuals, the true order is, first moral corruption, and then intellectual darkness.

This true order was well understood by Lucretius, the great Roman poet. Men could find, says he, no pleasant or comfortable way of living in their sins, while that grim tyrant Religion showed herself in the heavens, and threatened their evil lives with punishment. Hence it was the grand exploit, the glorious achievement, of those two good-natured men, Democritus and Epicurus, that they came to the relief of poor, suffering humanity, and, with clear, philosophic reasons, chased that frightful spectre, or *empuza*, of a providential Deity, and punishment after death, quite out of the world, and banished it from the minds of men.¹ 'So that Lucretius,' says Cudworth, 'does not, without just cause, erect a triumphal arch or monument to Epicurus, for this conquest or victory of his over the Deity and religion.'² Now, here we have the true order of nature — first sin, and then skepticism.

The same order is observed by St. Paul in his Epistle to the Romans. Men are therein represented 'as knowing God, *i. e.*, having the truth, and yet acting wickedly.'³ What, then, shall they do with Religion, the grim tyrant who looks down so sternly and so awfully, out of the heavens, upon wicked men 'grovelling here upon the earth'? Or, in the words of the Apostle, what shall they do with 'the wrath of God,' which is 'revealed from heaven against all ungodliness and unrighteousness of men'? Why, instead of reforming their wicked lives, they just set to work and wove around themselves an ingenious veil or network of sophistry, so as to shut out and exclude from their consciences the fearful light of heaven. They became vain in their imaginations, that is, 'in their reasonings,' and 'their foolish heart was darkened.' As they were consciously wicked, and liable to punishment, so

1 Lib. II, ver. 1089.

2 Intellectual System of the Universe, Book I, Chap. II, Sec. xx.

3 Hodges on Romans, Chap. I, ver. —.

‘they did not like to retain God in their knowledge.’ Hence, by their vain reasonings and sophistications, they never ceased in the work of self-delusion, until, to their besotted minds, ‘they changed the glory of the incorruptible God into an image made like to corruptible man, and to birds, and four-footed beasts, and creeping things.’ In one word, they first ceased to glorify God, whom they knew, either by their obedience or their worship; and then the darkness of doubt, false reasonings, and determined skepticism followed in the train of their wickedness. The depravity of mankind, which shrinks, like a guilty thing, from the light of known truth, is at the bottom of the whole downward process. The same thing is true, the same is observable, in regard to her ‘political apostasy,’ as well as in regard to her religious decline and fall. Moral corruption preceded, and intellectual darkness followed, in the decline and fall of the Roman Republic.

‘The simple word of Jesus, that “men love darkness rather than light, because their deeds are evil,” is indeed a great law of history. Their errors are as much the result of evil lives, as their evil lives are the result of errors. Nothing is more clearly shown by the history of Rome, or France, or America, than that in the decline of nations, men first become corrupt in practice, and then adopt corrupt maxims as an opiate for their consciences. In this country, for example, the loaves and fishes had long been the chief object of pursuit, in practice, before any one ever had the unblushing hardihood to utter the infamous sentiment, that “To the victors belong the spoils.” All patriotic virtues declined, in short, ere the purer creed of a purer age was eclipsed, and gross darkness covered the land. The simple word of Jesus, we repeat, that darkness follows corruption, is a great law of history. All his simple words are, in fact, great laws of history; and the study of these simple words is destined to introduce a new, and grand, and glorious era of light into the philosophy of history.’¹

Why, then, has Dr. Palmer inverted the order of this divine word, as well as of history and philosophy? Does he not

1 *Southern Review* for January, 1869. Article on J. J. Rousseau, in which the principle under consideration is discussed.

know that the natural depravity of man lies at the basis of all human life, whether individual, social, or political, and, unless counteracted by all the appliances of heaven and earth, first undermines its virtues, and then its faiths? When this has done its work, and we behold a great people, like those of Rome in the age of Cicero and Cæsar, or like those in the present crisis of this country, sunk into the dregs of moral degradation and misery, it seems to us worse than idle to preach to them the necessity of a return to their primitive political faiths. The words, however eloquent, fall upon dead men's ears. There were orators at Rome, during the period just referred to, who, with all the eloquence at their command, insisted on the necessity of a return of the people to their primitive principles and faiths. But it was all utterly in vain. All their hopes, indeed, seemed as utterly devoid of hope, and all their efforts as useless, as those of an attempt to bring a corpse to life by the use of a galvanic battery; a few spasms are produced, but no signs of real life.

It was during this awful period of darkness and decay that Christianity made its appearance in the world as a new power, and everywhere there soon appeared the signs of a new life. That power was then, in fact, 'the life and the light of men' (John i, 4). Is it not so now? Has our Christianity become effete? Is it a failure? If not, then why, in the name of God, do Christian men talk about the dead political faiths of the eighteenth century, springing from the infidel philosophy of that age, instead of looking forward, with faith in God, to infinitely better political faiths and institutions — to faiths and institutions adapted to the nature of man, as made known in the words of Jesus, not as it existed in the roseate dreams of Jefferson?

All that Dr. Palmer has said respecting 'the grandeur and the decline of the Romans,'¹ has filled us with wonder. It is in these words: 'If, on the contrary, you would know the slow but certain ruin into which the mightiest kingdoms must crumble, that *has traversed its principles and denied its traditions*, look at imperial Rome, faintly disguising its *apostasy*

1 The title of Montesquieu's work.

from republican integrity under the dead form of a Roman Senate. The day of her dignity was when her consuls and her tribunes were *the free choice of the people*; when to be a Roman was to be a freeman and a ruler; *when citizenship in the great Republic was a patent of nobility equal to that of princes*. But when she became the slave of her own armies, and the magistracy of the ballot gave place to the dominion of the sword, then came, slowly but sternly, *the retribution that ever awaits political apostasy*. And the marvellous fact stands before us, that the kingdom that has been the most thoroughly blotted from the earth, the most completely sucked up by barbarian hordes, existing only as a memory in the traditions of the past, is that very kingdom of iron, wrought out by the most iron race the world has ever known, whose supremacy of force bowed the whole earth before it in the submission of absolute terror, but whose strength of iron was turned into the feebleness of clay when it slipped into an empire and forgot the traditions of the Republic.'

This is a high-sounding passage; and winding up, as it does, with Byron's sublime address to 'The Niobe of Nations,' is well calculated to make a deep impression on the minds of its readers. By many persons, it will, perhaps, be considered the most eloquent passage in the whole discourse. If carefully examined, however, it will be found to contain only one truth; the truth, namely, that Rome was once a very great republic, and afterward had a very great fall — a point in regard to which it seems impossible to commit an error. But, beyond this, there seems to be absolutely no sign of truth whatever.

In the first place, for example, there is no truth whatever in all this declamation about the dignity of 'citizenship in the great Republic' as 'a patent of nobility equal to that of princes.' There were thousands, and tens of thousands, and hundreds of thousands, who enjoyed the privilege of 'citizenship in the great Republic,' without even possessing the right of suffrage. Our free negroes can vote; not so, except to a very limited extent, 'the citizens of the great Republic.' After this had, indeed, reached the very pinnacle of its greatness and glory, Louis Napoleon still speaks of those who were 'citizens

since the time of Servius Tullius, *but without the right of suffrage.*'¹ In like manner, Neibuhr says: 'If a man became a Roman citizen *sine suffragio* (as vast multitudes did), he was not received into a plebeian tribe, . . . and therefore could not hold any office, *nor have a vote.*'² It was thus that the free inhabitants of Tarsus, and other cities of the great Republic, became Roman citizens; but they could not vote. In the city of Rome itself, the very head and heart of the great Republic, only a portion of the citizens enjoyed the right of suffrage. Even as popular and well known a writer as Ferguson, speaks of those who (U. C., 451) enjoyed 'the title of citizens, though without the right of suffrage.'³

St. Paul, like thousands before him, became a Roman citizen simply because he was born in the free city of Tarsus; but he could not vote. Being a Roman citizen, he could not, it is true, be scourged uncondemned, or without a trial; and this was, no doubt, a real privilege in times of violence and cruelty. But it was surely no very exalted patent of nobility. All our freed negroes certainly possess a still higher one.

In the second place, it is not true, that 'the day of her dignity was when her consuls and tribunes were *the free choice of the people.*' This is not true, for the simple reason that there never was such a day. 'The free choice of the people' is an American phrase, and not a Roman. 'The people' of Rome were not allowed to vote; that is, in one sense of the term *people*. 'Self-government, as applied to people generally, never existed in the Roman Commonwealth.' The *populus*, or a select portion of the people only, possessed the right of suffrage during all the palmy days of the great Republic. The Roman *populus* 'were anything but a rabble. They were comprised of men of standing and wealth. . . . They had a lofty patriotism that nothing could seduce. The rabble of Rome were of no account (politically speaking), until the enormous wealth of the senatorial houses raised up clients and

1 History of Cæsar, Vol. I, Chap. VI.

2 Lectures on Roman History, Vol. I, p. 174.

3 History of the Roman Republic, Vol. I, p. 77.

parasites. And when this rabble (such is the testimony of all history), who were merely the dependents of the rich, *obtained the privilege of voting, then the decline of liberties was rapid and fearful, since they were merely the tools of powerful demagogues.*¹ It was 'the day of her dignity' and glory when her consuls and her tribunes were elected, not by 'the people,' but by 'men of standing and wealth,' who had a deep stake in the fortunes of the Republic. 'When the plebeians had grown to a power, the decline of the Republic commenced, and a new organization was necessary.'² 'When all the Italians were incorporated with the thirty five tribes' (and thereby had the right of voting), 'violence and bribery became the order of the day.'³

We agree with Dr. Palmer, that Rome was once a very great Republic, and that she afterward had a very great fall. But his theory, his explanation, of the secret of her grandeur and her decline, is quite new to us. We have never seen anything of the kind in Montesquieu, or Neibuhr, or Arnold, or Merivale, or in any writer of history. Or, if we have seen it in any one, or anywhere, it did not take hold on our mind, or strike us as worthy of being remembered. There are, according to Arnold, four great causes of national greatness — 'race, language, institutions, and religion.'⁴ He does not even mention 'the primitive political faiths' of the people — the only cause deemed worthy of notice by Dr. Palmer. But it would require an article much longer than the present, not to say a volume, to discuss the four real causes of Dr. Arnold, or to do full justice to the metaphysical moonshine of Dr. Palmer.

How, indeed, with the history of Rome before him, could Dr. Arnold insist on her 'primitive political faiths' as the one great cause of her grandeur and glory? Those faiths were, as every one knows, monarchical, and not republican. It was under the reign of her seven kings, a period of 240 years, that Rome took her first steps in the grand career of her unparalleled greatness. But at last she discovered, as all nations

1 The Old Roman World, by John Lord, LL. D., p. 212.

2 Ibid., 210.

3 Ibid., 208.

4 Lectures on Modern History, p. 43.

have been doomed to discover, 'that one man's rule is (sooner or later) all men's misery.' Hence the king was hurled from his throne. It was then, if at any time in her history, that Rome 'traversed her fundamental faiths'; but she did not succumb. On the contrary, in spite of the awful disasters that followed in the train of the revolution, she still survived, because 'the race' — the first great human cause of her destiny — was still the same.

The Republic was, at first, 'an exclusive aristocracy.' Rapacious, cruel, and tyrannical, the aristocracy, too, would have become utterly intolerable, if a popular element, springing from the indomitable energy of the race, with its love of independence, had not worked its way into the Constitution, and established a balance of power between the few and the many. Then followed 'the day of her dignity' and her glory. But that day, too, had its rise, its meridian glory, and its dark decline. The wicked passions of men worked the ruin of Rome. War, rapine, riches, and corruption first undermined her republican virtues, and then her republican faiths were a dead letter. Even the enthusiastic republicanism of Cicero, the greatest patriot no less than the greatest orator of his time, turned away, with loathing and disgust, from the throng he saw around him — from the exhausted carcass and empty shadow of the great Republic, 'filled with dead men's bones and all uncleanness' — and fixed its affections on the grand reality of the past, or, more properly speaking, of his own imagination.¹ The *faith* remained, but the *life* was gone. The idea was there, but the passion was extinct. The altar was the same, but the sacred fire had ceased to burn. In the words of Curio, the great Republic had become 'a vain chimera,' or, in those of Cæsar, 'a name devoid of substance or reality.' Its time had come. Patriots could only mourn; and republican bigots, burning with the strange fires of a fanatical worship, could only wield the assassin's dagger, and plunge the Roman world once more in all the horrors of a

¹ Cicero, says Neibuhr, was but 'little versed in Roman History. Vol. I, p. 21. In this respect, he was like Dr. Palmer, an orator, but *little versed in the history of his own country.*

civil war. They could await the beneficent career of a Cæsar, but not the dark doom of the great Republic.

Dr. Palmer has told us what things we should, in passing through the present crisis, take along with us, and what things we should leave behind. Shall we, then, take 'our ancestral faiths' along with us into the new era? We should neither take all, nor leave all. We should, on the contrary, analyze, examine, sift, and determine, if possible, which of those faiths are good and which are false. We should thus examine and scrutinize them, one and all, in the light of history, and apply to them all the tests which an Aristotle, a Montesquieu, and other great masters of the science of government, have placed in our hands. Shrinking from no amount or intensity of toil—research, analyses, comparison, and patient thought—until the true is separated from the false, we should hold fast those faiths, and those only, which are good—which have been approved by the wisdom of ages and the lessons of experience. We should cherish these, indeed, as 'the faiths of the fathers,' as the most precious legacy of the past. But we will none of their 'deplorable nonsense.' Whether it be found in the grand Inaugural of 1801, or in 'the immortal Declaration' of 1776, we will leave it behind us forever. Why, have we not tried that Declaration once already, and has it not blown us out of the water, sending us howling to 'the nearest port or bay'? Lord Brougham, we are aware, has pronounced the American Declaration of Independence 'the most important event in the world,' an opinion in which, no doubt, 'the immortal Jefferson' would most heartily have concurred. But we have tried it once. All that is good or true in it has been trampled in the mire by the Northern people; and all that is most false in it they used as an instrument to work our destruction. That 'all men are born free and equal' is, we are sure, one of 'the faiths of the fathers,' to which Dr. Palmer would not advise us to return; but how many there are of the same class he has not been pleased to inform us. Who, then, will inform us? Who will tell us which of these faiths are true, and which are false? This is a question for the young men of the country, which it will take them an age to answer—

an age, too, of severe toil and study. But if they pin their faith to Mr. Jefferson's sleeve, or to any other man's, they will always remain young. They will be like the politicians of the past, and, therefore, utterly unfit for the new era, or for any other.

Upon the whole, then, we cannot consent to return to 'our ancestral faiths.' Our ancestral faiths! What a compound! What a motley mixture! What a heterogeneous mass of discordant and conflicting materials! What a strange dose of truth and trash, of physic and poison! Shall we swallow it all at once?—its excellent sense and its 'deplorable nonsense'—its wise maxims and its dangerous magazines—its English wisdom and its French folly—all at one dose? We beg to be excused. Even if our author had as clearly proved the inestimable value of 'primitive and hereditary faiths,' as he has signally failed to do so, we should still beg leave to be excused from such a prescription. But even if these faiths were all good and true, how can they be applied in the present crisis? Can they galvanize the dead corpse of American liberty into newness of life? What is it we now need—political faiths or moral virtues? If we most need the latter, as most unquestionably we do, then must we work at the roots of the tree, not at its branches.

Oh! in our present awful crisis shall we still be fed on the east wind? Shall we be told that our 'only gleam of hope' is in the 'stumbling virtue' of the people? No—ten thousand times no; our faith is in God, and not in 'our ancestral faiths.' Shall we go to the history of England, and of Rome, to learn the inestimable value, or virtue, of always adhering to our primitive political faiths? They show us no such thing. They utterly fail, as we have already seen, to lend the least support to the great, fundamental 'canon' of our author, that every State must live by faith in its primitive faiths. That 'canon' itself, indeed, appears to us as vague and visionary as it is superficial and anti-Christian. Such vague generalities may, for aught we know, be as grand as they are glimmering; but they kindle no lights in our mind, and no hopes in our heart. Like the sheet-lightning of a summer night, they glim-

mer for a moment, and then leave the world as dark as ever. It is not the teaching for the times. No! no! by all that is sacred in the word of God, by all that is holy in the love of country, by all that is awful in the destiny of man, by all that is sublime in the name of duty, *it is not the teaching for the times.*

ART. II — *The Sun; Ruler of the Planetary System.* By Richard A. Proctor, B. A., F. R. A. S. London: Longmans, Green & Co. 1871.

One of the most interesting features connected with the progress of science at the present time is the manner in which the results of laborious research are promulgated to the people at large. Scientific men are no longer content with communicating the fruits of their labors to learned societies, or publishing them, in heavy volumes, readable only by the few who understand their technical language. But, fully alive to the wants of the public, and appreciating the importance of a general diffusion of scientific knowledge, they are in the habit of unfolding, in popular treatises, written in familiar language and with simple illustrations, the secrets they have wrested from Nature in their observatories and laboratories. To such an extent have such treatises been multiplied within the past few years that they may be fairly considered as constituting a new department of literature, the effect of which upon popular culture cannot fail to be beneficial in the highest degree. Prominent among the works to which we allude are those of Schellen in Germany, Guillemin in France, Roscoe, Tyndall, and Proctor in England, the last being the author of the volume now before us. The works of these men are doubly attractive, both because of the charm of style which they all possess, and because of the highly interesting character of the subjects of which they treat; while they are all thoroughly reliable in their statements — a quality not always found in so-called elementary works, many of which, in their laudable endeavors

to make the rough places smooth, succeed only in making them obscure. The volume now under consideration is entirely free from any such objection and we have selected it as the text of this article as much for the purpose of calling attention to it as a specimen of the class of works to which it belongs, as because it comprises, to a large extent, the material from which we have constructed the article itself. Much of the information it contains we have before met with in scientific periodicals and elsewhere, but in no other single work with which we are acquainted is the entire subject presented so comprehensively and exhaustively. One of the principal features of the book is the handsome manner in which it is illustrated. Nothing at all comparable to the colored representations of the surface of the sun, its spots, prominences, corona, &c., has yet appeared in any other popular scientific treatise, and they must be seen to be appreciated. The work itself is a complete treatise upon the phenomena presented by the sun, as viewed in the light of recent investigations; and we proceed now to present, as well as we may be able, a brief outline of the subject, pursuing, for the most part, the order adopted by our author. We shall begin by offering some considerations upon the distance and dimensions of the sun.

The determination of the sun's distance from the earth is a problem which lies at the very foundation of astronomy; and it has accordingly received the attention of astronomers from the earliest ages to the present time. This problem is as difficult as it is important; and the liabilities to error in its solution are so great that we can never hope for a perfectly accurate determination. This will appear when we consider the general nature of the question. Divested of all its details, it is nothing more than the problem which every surveyor has to solve — viz., the calculation of the distance from a given point to an inaccessible object. The surveyor solves this problem by selecting two points, from both of which the object is visible, measuring the distance between these points, and determining the bearing from each of the object in question. He is then provided with a triangle, one side and two angles of which are known, so that the remaining sides are

easily calculable. It is very essential to accuracy that the triangle, so formed, shall be as nearly equilateral as possible, and any very great departure from this form involves a large liability to error in the estimation of the angles. Suppose the distance from the surveyor to the object to be, say 960 feet, and that the longest base line he can measure is one inch, it is entirely obvious that it will be next to impossible for him to arrive at a correct result by the direct process above described. Yet such is the character of the problem the astronomer has to solve in determining his distance from the sun. The greatest possible base line he can measure is the diameter of the earth; and the ratio of this line to that joining the sun and the earth is as one inch to 960 feet, the effect being to produce a triangle so *ill-conditioned* as to preclude the possibility of attaining anything approaching accuracy in its employment. At the very outset, then, we are met face to face by what would seem to be an insuperable obstacle. But formidable as this obstacle is, it has been, to a very great extent, overcome by the invention and practice of indirect methods, the principal one of which we shall now attempt to explain.

On the 8th of December, 1874, a phenomenon will occur, the like of which has not happened for more than a century, nor been witnessed more than two or three times in all the past history of the world. It will be repeated in 1882, after which an interval of 122 years will elapse before its next occurrence. This event is the passage, or, as it is technically termed, the 'transit' of the planet Venus across the disk of the sun. For some time past astronomers have been making preparations for the observation of this phenomenon, devising new instruments, making the necessary preliminary calculations, &c.; and so much importance is attached to the result hoped for, that the governments of Great Britain and the United States have each appropriated fifty thousand dollars wherewith to defray the expenses incident to the occasion. To the uninitiated, among whom are most likely to be numbered some of those who voted against the appropriations, it must seem like throwing pearls before swine to expend so

large a sum upon so trivial an event as the passage of a planet in front of the sun. But, insignificant as it may appear to unscientific minds, the transit of Venus furnishes to astronomers the most reliable data which can be obtained for the accurate determination of the sun's distance from the earth, the knowledge of which distance is essential not only to the perfection of astronomy in its purely scientific aspect, but also to the accuracy of its applications in the the art of navigation, in geodesy, in geography, &c. A simple illustration will serve to explain the use which is made of the transit in the solution of the problem under consideration.

If a small object, such as a penny, be held up between the face and the wall, and viewed first with one eye and then with the other, it will in each case conceal from view, or be projected upon, a certain definite spot on the wall. But that portion of the wall which is concealed by the penny will not be the same in the two cases; the spot upon which the penny is projected by the right eye being considerably to the left of the point of projection corresponding to the left eye. The distance between the projections will depend on the distances apart of the eyes, the penny, and the wall, and in such a manner that when a sufficient number of these quantities are known, the rest can be easily calculated. Suppose, now, that instead of the two eyes of a single individual, we have two observers stationed at different places on the surface of the earth as remote from each other as possible, that the penny is replaced by the planet Venus, and that the circular disk of the sun takes the place of the wall. When, in the course of its orbital revolution, the planet comes between the earth and the sun, it is evident that the planet will be projected upon two different portions of the solar disk, as seen by the two observers. These points of projection are determined by an indirect process. Each observer notices with the utmost possible minuteness the time when the planet comes in contact with the sun, and also the time of emergence from the sun; the interval between the two observations being that consumed in the passage across the disk. The rate of motion of the planet having been previously ascertained, the length

of the chord joining the points of ingress and regress is next found by a simple proportion, and then the distance apart of the two chords corresponding to the positions of the two observers is determined by the well-known methods of plane geometry. The distance by which these chords are separated is evidently the displacement of the apparent position of the planet due to the two places of observation, and this being known, the distance of the planet from the earth, and, as a corollary to this, the distance of the sun from the earth becomes a matter of easy, though tedious, computation.

The transits of Venus of 1761 and 1769 were carefully observed by European astronomers. It is well known that the distinguished navigator, Captain Cooke, went on an expedition to the Pacific Ocean in connection with the latter of these transits. The value of 95,000,000 miles which has been given in our astronomical text-books as the sun's distance from the earth, was derived from the observations made during the years above mentioned. But of late years astronomers have had reason to call in question the accuracy of this result. This distrust has arisen from several causes, among which we may mention the determination of the sun's distance by other methods, the recent physical investigations of the velocity of light by Foucault and others, and experiments upon the optical phenomenon of irradiation. The distance of the sun has been calculated by comparing it with that of the planet Mars, the result being considerably in diminution of that derived from the transit of Venus. The velocity of light has been ascertained to be some thousands of miles less per second than was formerly supposed, while the laws of irradiation as now understood require a similar modification to be made in our estimate of the sun's distance. This phenomenon may be explained briefly, as follows: The light proceeding from a brilliant object, and falling upon the retina of the eye, excites this membrane, not only upon the exact spot where it strikes, but also upon the contiguous portions, the effect being to make the bright object appear larger than it really is, while at the same time a dark object upon a white or bright ground will appear smaller than it would otherwise do. Now, Venus is such a

dark object, while the sun is intensely bright; the disk of the sun is apparently magnified by irradiation, while that of Venus is contracted from the same cause, the consequence being that it is very difficult to estimate exactly the instant when the planet comes in contact with the sun on one side and emerges from it on the other. The attention of astronomers had not been directed to this source of error in 1769, and hence the results obtained at that time are not now considered as perfectly accurate. But it has been shown that if proper allowances are made for irradiation, the observations made then furnish a result not differing very largely from those obtained in more recent times by other methods.

In the foregoing very imperfect account of the transit method of attacking the problem of the sun's distance, we have purposely omitted any mention of the peculiar difficulties which are to be met and overcome in its solution — difficulties which are inseparably connected with the very conditions essential to success. We shall barely allude to them now. In the first place, the stations of observation must be situated at the greatest possible distance from each other, one in the northern and the other in the Southern hemisphere, and, as transits can only occur in June and December, the probability is that at one or the other station the weather will prove unfavorable. Again, the two stations ought to be on the same meridian, if possible; but this condition can rarely be fulfilled, and hence it becomes necessary to make a long series of preliminary observations for the determination of the latitude and longitude of the stations, in which observations the utmost attainable degree of accuracy is absolutely essential. Lastly, since the stations are so far apart, they are necessarily in close proximity to the edge of the illuminated portion of the earth's surface, where the sun occupies a low position in the heavens, and the effect of refraction is not only very great, but to a considerable extent not conformable to known laws. These and other circumstances enhance very greatly the difficulty of solving the problem; but astronomers, as much as any other class of people in the world, know how to grapple with and overcome obstacles, and we may safely

assert that the coming transits will provide a satisfactory solution of this great question, involving, as it does, every numerical estimate of distance in the whole range of astronomical science. We may remark, in concluding this branch of our subject, that the various methods which have recently been practised indicate that the sun's mean distance from the earth is not far from 92,000,000 miles, a value which will certainly not be very materially changed by future investigations.

Soon after the invention of the telescope, astronomers began to apply themselves to the study of the solar surface, and one of the first results of their labors was the discovery of the spots on the sun. The discovery of these curious objects gave rise to much discussion in regard to their nature, and, indeed, some went so far as to deny their existence as being altogether contrary to the teachings of Aristotle. But when the evidence of the telescope could no longer be gainsaid, the question, What are the spots? arose for settlement. One of the first suggestions, made, we believe, by Father Scheiner, in the early part of the seventeenth century, was that they were small planets revolving around the sun, close to his surface; but Galileo showed very clearly that the phenomena presented by the spots were inconsistent with this hypothesis. There remained, then, but one other view to take in regard to them — viz., to consider them as in some way or other belonging to the surface of the sun itself. It was not, however, until 1769 that any satisfactory theory was devised concerning them. In this year, Dr. Wilson, of Glasgow, had his attention called to a large spot visible to the naked eye. He examined this spot very minutely, following it in its motion across the sun's disk, until it disappeared at the western edge. After the lapse of several days, the same spot reappeared at the eastern edge, and travelled again across the surface of the sun, reaching the centre of the disk in about six days. The appearance of this spot, which was entirely similar to that of the solar spots in general, was that of a very dark nucleus or *umbra* in the centre, surrounded on all sides by a brighter fringe, or *penumbra*, which gradually faded away into the general brightness of the disk itself. Dr. Wilson, after the closest scrutiny of this spot, came to the

conclusion that it was formed by a conical-shaped opening in the sun, the nucleus being at the bottom, and the penumbra forming the sides of the opening; an opinion which the investigations of recent times have substantially corroborated.

Bright as every part of the sun seems to be, yet, upon examination with suitable optical instruments, its brightness is found to be by no means uniform. Besides the dark spots which appear at intervals, it is found that the entire surface of the sun presents a mottled appearance, being crossed in every direction by streaks resembling willow leaves in shape; while, in close connection with the spots, are usually to be seen bright patches to which the name *faculæ* has been given, and which are supposed to be ridges of luminous matter elevated above the general surface of the sun. When a spot is about to be formed, numerous *faculæ* make their appearance in the neighboring region. Soon a black point becomes visible, which enlarges in size, and after a while the penumbra manifests itself around it, the line between the nucleus and the penumbra being perfectly distinct during the entire process of formation. As we have already indicated, the spots do not remain stationary either in position or appearance. On the contrary, as a general rule, they travel across the sun's disk from east to west, disappearing behind the western edge, and again appearing at the eastern edge after the lapse of about thirteen days. As it is settled that the spots, whatever they may be, are attached to the sun's surface, their motion indicates a motion of rotation of the sun itself from west to east in about twenty-five days. In regard to the changes of form which the spots undergo, it may be remarked that they are often of the most fantastic character, and do not admit of any general description. Large spots have frequently made their appearance suddenly, and as suddenly disappeared. Occasionally a spot has seemed to break up all at once into a number of smaller ones, as if it had been burst in pieces by some violent internal commotion. Others have been observed to have a spiral motion around an axis, like the motion of water in an eddy, while still others have been seen to fade away slowly and gently as a cloud passes away under the influence of the sun's rays.

Of course, nothing whatever is known concerning the causes which operate to produce the spots. All the phenomena attending them indicate that they are solar *storms*, similar in their character to the cyclones with which we are familiar on our planet. Thus the spots, like the cyclones, do not make their appearance indiscriminately over the entire surface of the sun, but they are confined almost exclusively to a belt extending from the equator to the parallels of 35° north and south. Again, the spectroscope has shown that in many cases the matter lying within the limits of a spot is subjected to a vorticose motion in the plane of the surface, while at the same time there are evident indications of ascending and descending currents of gaseous matter within the spots, altogether similar to the currents of air which are observed in every storm which takes place in our own atmosphere. Before proceeding further, it should be noticed that the spots are not depressions in the *body* of the sun itself. Sir William Herschel held that they were openings in the fluid envelops surrounding the sun, which enabled us to look down upon the unilluminated surface within; but this view has not been sustained by later researches. It is decidedly improbable, that there is any such thing as the body of the sun separate and distinct from the fluids around it; and we think it most probable that the entire globe of the sun is a fluid mass, of which the external surface, or *photosphere*, as it is called, is only the *visible* limits. If this view be correct, then the spots must be considered as the manifestations of commotions which are taking place beneath the surface, and resulting in the upheaval and depression of fluid matter. Sir John Herschel attributes the formation of spots to the different intensities of radiating power possessed by the sun's equatorial and polar regions, this difference being due to the unequal thicknesses of the fluids surrounding the solar equator and poles. But we are inclined to believe that this difference is due rather to a want of homogeneity in the consistence of the fluid body of the sun itself. The spectroscope shows us that the sun is composed largely of the same chemical elements which are found in our own earth, and it would be hardly within the range of proba-

bility to suppose that such a vast body of matter could be conglomerated into one homogeneous mass. Admitting, then, that the sun is made up of fluid portions of unequal density and of different radiating powers, it follows that currents will be established which will soon be regulated, in regard to their location and direction, by the rotation of the entire globe. These currents will certainly come in conflict with each other in the region of their common origin, and revolving storms, or cyclones, must be the result. At the same time, as we shall see in the sequel, there are at work other and more recondite agencies than a simple difference in density between the constituent portions of the solar mass — agencies whose effects are experienced, not only in the sun itself, but also on our earth, and probably throughout the system.

In addition to the observations which have been made upon individual spots, for the purpose of determining their general characteristics, motions, etc., other investigations have been conducted, the object of which was to determine whether the number of spots visible at any time was subject to law, and these investigations have led to a remarkable discovery. The astronomer, Schwabe, of Dessau, has been constantly engaged in this work from the year 1826 up to the present time, having examined the surface of the sun with his telescope almost every day during this long period of forty-five years. The tabulated results of the observations made by this persevering scientist point out the remarkable fact, that the number of spots visible from year to year changes its value through a well-defined period. Thus, in the years 1828, 1837, 1848, and 1860, the number of *new groups* or spots attained its maximum, while the minimum was reached in 1833, 1843, 1855, and 1867. We have here evident indications that the cause which produces the spots is not capricious in its operations, but that it is regular, and, therefore, as subject to law as the force of gravitation itself. Professor Wolf, of Zurich, who has studied very carefully these observations of Schwabe, has come to the conclusion that the spot period is about $11\frac{1}{2}$ years, during which the number of new spots passes through its entire series of values from the minimum to the maximum, and back to the

minimum again; and it is worthy of notice, that in every case the progression from minimum to maximum is much more rapid than from maximum to minimum. Professor Wolf has also discovered that, in addition to the well-marked period above alluded to, there is also a smaller period, of about $7\frac{2}{3}$ months, which is very nearly the periodic time of the planet Venus, and there is reason to believe that a still longer period of 56 years exists.

The periodicity of the solar spots has a remarkable connection with that of another and totally distinct class of phenomena, viz., those of terrestrial magnetism. It is well known that the magnetic needle, when freely suspended, and allowed to come to rest, points, approximately, north and south. But it is found that this position of the needle is by no means stationary. In fact, the needle oscillates during the day, about its mean position, owing to a tendency on the part of that pole which is nearest the sun to direct itself toward that body, the extent of the vibration amounting to a quarter of a degree or more. This daily oscillation itself varies with the time of the year, while the mean position for the day is also undergoing change. There is a line (an irregular one) surrounding the earth, at every point of which the direction of the needle is truly north and south. This line, however, is not permanent, but slowly revolving around the earth, from east to west, at a rate which, if constantly maintained, would cause it to complete one revolution in about a thousand years. At all points east of this line the needle points to the west of the true north, while the reverse is true on the opposite side. These horizontal fluctuations of the needle are all regular and systematic in their character; the laws governing them have been, to a considerable extent, ascertained, and they can be more or less successfully predicted. But, besides these normal changes, the needle is subject to occasional great irregularities and fluctuations. It may have been oscillating regularly for days and weeks together, when all once it will begin to vibrate rapidly and violently without any apparent cause; and what is to be particularly noticed is, that these sudden changes are not local in their character, but progress through large portions of the

earth, and, in some instances, they have been observed at widely separated places at the same moment of time, indicating that some great disturbance has affected the magnetic condition of the entire globe. Such phenomena are appropriately designated *magnetic storms*. They have been made the subject of study by eminent physicists for many years, and it has been demonstrated that they are, like the solar spots, periodic in their character. And, wonderful to relate, the periods of the two phenomena are identical; they are the same in extent — $11\frac{1}{3}$ years — and they are the same in point of time, that is, they attain their maxima and minima at the same time. Such a coincidence between two classes of phenomena, so apparently distinct from each other, is certainly very remarkable; but it goes further still. It has been shown, by Carrington, Balfour, Stewart, and others, who were eye witnesses of the events they described, that sudden disturbances, taking place in the sun's surface, are attended *instantaneously* by magnetic storms on the earth — a fact which, taken in connection with the perfect synchronism of their periods, points unmistakably to the existence of a physical relation between the two events, and shows that the phenomena of terrestrial magnetism are as dependent upon the action of solar forces as is the orbital motion of the earth upon the attractive power of the sun's mass. The explanation of this relation, the determination of the single cause to which both the sun-spots and magnetic storms are to be referred, must be left to further investigation.

We proceed now to the consideration of other and, perhaps, more interesting matters connected with the solar orb. During the total eclipse of the sun which occurred in the year 1842, the attention of astronomers was directed to the appearance of certain rose-colored protuberances which were visible around the obscured disk of the sun. These objects had been noticed previously, but they were explained away as being nothing more than clouds floating in the atmosphere of the moon, and no further attention was paid to them. On the occasion referred to, however, the eclipse was watched by many of the most eminent astronomers of the day, all of whom paid special

attention to the phenomena presented by the prominences which were seen projecting outward from the edge of the solar disk. Much speculation was indulged in with regard to their nature and origin. The former view, that they existed in the atmosphere of the moon, could no longer be entertained, for it came to be the generally received opinion, that the moon was devoid of any such appendage as an atmosphere. Various other hypotheses were accordingly suggested. Some supposed them to be mountains in the sun; some held that they were solar clouds, maintained at an immense height above the surface of the sun itself, while others looked upon them as flames, and, as is usual in such cases, there were some wise men who went so far as to deny their existence, asserting them to be nothing more nor less than optical illusions.

The eclipse of 1851 afforded astronomers another opportunity of viewing these singular objects, many excellent drawings of which were then made. The observations made on this occasion were sufficient to decide many of the questions which had risen respecting the prominences. Thus the exceedingly irregular and changing shapes of many of them precluded the idea of their being solar mountains. One of them in particular, likened by the Astronomer Royal of England to an Australian boomerang, projected vertically from the edge of the sun to a height of three minutes of arc (equivalent to at least 80,000 miles), and then curved off in a horizontal direction to at least as great a distance—a form altogether incompatible with that of any solid body. Messrs. Hinds and Dawes, in their description of this same prominence, as observed by them, state that it continued to be visible for some seconds after the reappearance of the sun, and the latter observes that he detected in the upper part of the prominence a flickering motion. Again, during the progress of the eclipse, the prominences first appeared on that side of the sun which was in advance of the moon; as the moon passed on it moved over and gradually concealed these prominences, while at the same time others came into view on the opposite side of the sun. This traversing of the prominences by the moon (a point which has been brought out more fully since the time of which

we are now speaking, shows clearly that they are not attached to the moon, neither are they optical illusions, but that they are true solar appendages of some sort or other.

The opinions formed in '51 were further confirmed by the observations made during the eclipse of 1860, on which occasion, in addition to the ordinary means of observation, the powers of photography were called into requisition by Mr. De La Rue, of England, and Fr. Secchi, the director of the observatory at Rome. Without entering into details, we shall briefly recapitulate the results at which these distinguished physicists arrived, as recorded by Secchi:

1. The prominences are real phenomena appertaining to the sun.

2. They are collections of luminous matter of great brilliancy, and possessing remarkable photographic activity, so that many which could not be seen with the naked eye, or with the telescope, left their impressions upon the photographic plate.

3. In addition to the prominences which seem to be directly attached to the sun, there are others suspended in the atmosphere above.

4. Besides the prominences, there exists a zone of the same material enveloping the whole of the sun's globe. The prominences spring from this envelope; they are masses which raise themselves above the general level, and sometimes become detached from it. Some of them resemble smoke from chimneys, or from the craters of volcanoes, which, after mounting upward to a certain elevation, is blown off horizontally by the currents of air.

5. The number of the prominences is very great, while the height to which they ascend is enormous, reaching in some instances to 160,000 miles, or twenty diameters of the earth.

Before the occurrence of the next great eclipse the spectroscope had been invented and brought to a considerable degree of perfection. In 1868, in India, and in 1869 in our own country, both years being favored with total solar eclipses, astronomers availed themselves of this wonderful instrument, and succeeded in obtaining a complete and satisfactory settle-

ment of the questions which the prominences had presented for solution. Former investigations had furnished proof positive as to *where* the prominences are. There was no longer any doubt about their being situated near to, but outside of, the body of the sun, but it still remained to be determined *what* they are and *how* they are produced. The spectroscope has answered both of these questions. It is well known to all who have paid any attention to the subject (and who is there who has not read at least some of the multitude of articles which have appeared within the last ten years upon spectrum analysis?), that when the light from a self-luminous solid or liquid body is sent through a prism, there results a continuous spectrum; that if the body be shining by reflected solar light, the spectrum will be continuous, but with dark bands crossing it; but if it be gaseous, the spectrum will consist of separate luminous bands or lines. The eclipse of '65 was observed by Lieut. Herschel, son of the great Sir John, at Jamkhandi. As soon as the eclipse had reached the phase of totality, a prominence appeared; he turned the spectroscope upon it, and the problem was solved immediately. Instead of a continuous spectrum, there were to be seen '*three vivid lines—red, orange, and blue.*' Lieut. Herschel had in a single moment obtained the answer to the question for which astronomers had been waiting a quarter of a century. The prominences are not solid bodies, nor liquids, nor clouds like those belonging to our atmosphere, but they are masses of *glowing gas*. Besides Herschel, many other scientific men took part in the observation of this eclipse; among the number was M. Jannsen, of France. This gentleman not only examined the spectra of the prominences while the eclipse was in progress, but conceived the idea of so arranging the spectroscope as to render their spectra visible during the full light of day. In this he perfectly succeeded, and he forthwith sent to Europe a full account of his experiments. In the meantime, the same idea had occurred, independently, to Mr. Lockyer, in England, and it is stated that only a few minutes before the news of Jannsen's success had reached the Imperial Academy at Paris, a communication from Mr. Lockyer had been read, an-

nouncing the results of his labors in the same direction. Without discussing the question, to which one of these gentlemen is due the chief credit for the invention, we remark that it placed in the hands of observers a much readier method of observing the prominences than they had previously possessed, and it enabled them to find that the prominences consist, for the most part, of incandescent hydrogen, associated with the vapors of other chemical elements. Mr. Lockyer also announced the discovery, that the prominence matter was not confined to any definite portion of the solar surface, but extended all over the sun in a continuous envelope, to which he gave the name of *chromosphere*. The existence of this envelope had been previously pointed out by Secchi and others, but Lockyer was undoubtedly the first to observe it through the spectroscope, and to determine its true character as a gaseous envelope of the sun.

More recent improvements, suggested by Dr. Huggins, have enabled astronomers to obtain, not only *live spectra* of the prominences, but also colored pictures of the prominences themselves; so that it is no longer necessary to wait for a total eclipse, but we can, as it were, produce an eclipse every day. We have before us several views of prominences taken by Lockyer, Zöllner, and Prof. Respighi, the last of whom has obtained a complete representation of the entire solar disk, with the prominences projecting from it. All of these views are singularly beautiful, and many of them present the most fantastic appearance. Some of them resemble trees with tall, slender trunks and wide-spreading branches; some appear as immense tongues of flame, while others present the appearance of icebergs colored red. One, the most beautiful of the whole series, affords striking evidence of the inconceivable intensity of the forces which are at work in the production of these phenomena. There are two views of the same group of prominences, taken within less than an hour of each other. In the first view, a tall, thin column of flame rises, with a very distinct spiral motion, to the height of 50,000 miles above the chromosphere. On its right and left are others of all sorts of shapes, which baffle description. In the second picture the

appearance is changed entirely. The central column has grown thicker, while its summit has expanded into an enormous globe 10,000 miles in diameter; that on the left has swollen up to triple its original dimensions, while the group on the right has either dissolved or fallen back upon the chromosphere. The general appearance of all the prominences is that of masses of luminous vapor which have been shot upward by the action of eruptive forces at work deep down beneath the surface of the sun; and the whirling motion of these masses, together with the slowly-sinking appearance which the detached portions present, indicate conclusively that they are moving in an atmosphere which must surround the sun to the height of many thousands of miles. It is most probable that they are produced by eruptive forces, as above remarked, and that the chromosphere is only the remnant or debris of prominences which have been elevated and then have sunk back again toward the surface, where they remain for a time floating like fogs in the sun's atmosphere.

Around and outside of the region of the prominences lies that brilliant appendage to the sun, called by astronomers the *corona*. This phenomenon, which is never witnessed save on the occasion of a total solar eclipse consists of a magnificent crown of light entirely encircling the sun, and, in some instances, extending beyond the sun to a distance equal to the diameter of that body. It is always one of the most striking features of an eclipse, and it must have attracted the attention of observers in the earliest ages. It does not seem, however, to have been made the subject of scientific investigation until within recent times, and it has only been within a few years that any definite knowledge has been obtained with regard to it, while even now we are in ignorance of its origin, its composition, its relations to the sun itself, or the part it plays in the economy of the system.

Since 1842 the corona has received much attention from astronomers, and it was made the subject of special study by the American observers during the great eclipse of August 7th, 1869. This was the first occasion on which the physicists of this country had enjoyed an opportunity of observing an

eclipse with the aid of the improved modern instruments, and that they improved it to the utmost is well attested by the report of their labors, emanating from the Naval Observatory at Washington. It would not be profitable for us, in a paper like the present, to enter into a detailed account of the observations made upon the corona on this and previous occasions, and we shall content ourselves with a general statement of the various hypotheses which have been devised, by way of explaining the phenomenon in question. Let us first observe that the corona does not present the appearance of an annular or spherical envelope of the sun. The extreme distance to which it reaches from the sun is by no means uniform, but is very much greater in some directions than in others. This is notably the case in two directions, nearly at right angles to each other; and the effect is to give the entire corona a decidedly trapezoidal outline. Nor is the light emitted from the corona of uniform brilliancy; on the contrary, it, in general, appears to be intersected by rays of less intense luminosity, proceeding from the direction of the sun's centre, and, in some instances, passing beyond the boundary of the white light itself. In the picture of the corona taken by W. S. Gilman, Esq., during the eclipse of 1869, the appearance is that of a large, four-cornered star, a black disk in the centre being the obscured body of the sun, while in all directions around it there project the rays of a brilliant white light interspersed with rays of a darker hue. General Myer, who observed the eclipse from the summit of White Top Mountain, in Virginia, 5,530 feet above the sea, describes the eclipse as follows: 'To the unaided eye the eclipse presented, during the total obscuration, a vision magnificent beyond description. As a centre, stood the full and intensely black disk of the moon, surrounded by the aureola of a soft, bright light, through which shot out, as if from the circumference of the moon, straight, massive, silvery rays, seeming distinct and separate from each other, to a distance of two or three diameters of the lunar disk, the whole spectacle showing as upon a background of diffused, rose-colored light. . . . The silvery rays were longest and most prominent at four points of the circumference, two upon

the upper and two upon the lower portion, apparently equidistant from each other, and giving the spectacle a quadrilateral shape.' This is as accurate a description of the corona depicted by Gilman as if both of these gentlemen had observed the same object at the same time and place, while, in fact, they were several hundred miles from each other at the time the eclipse took place.

To account for the corona, there have been three classes of hypotheses suggested. The first of these, which may be set aside at once as having no sort of foundation in fact, is the lunar atmosphere theory. According to the second hypothesis, the corona is a phenomenon of the earth's atmosphere, being nothing more than the illumination of that portion of the air lying outside of the moon's shadow. But the peculiar shape of the corona, as well as the geometrical conditions which would have to be fulfilled, render it impossible to accept this hypothesis. If, then, the corona be neither a lunar nor a terrestrial phenomenon, there remains but one other resource — *i. e.*, that we must consider it as belonging to the sun. Astronomers are now generally agreed that such is the case, but further than this they have not yet positively advanced. It can hardly be regarded as an atmosphere of the sun, at least in the sense in which we use the word atmosphere with reference to the gaseous envelope of the earth. For, supposing it to be an atmosphere, then, in view of its enormous dimensions, more than a million miles in depth, the pressure it exerts upon the prominence matter and chromosphere must be sufficient to reduce those substances to the fluid condition, while, on the contrary, we have reason to believe that the pressure within a very short distance of the sun's surface is actually less than that exerted by our own air at the level of the sea. That the corona is gaseous, however, the spectroscope furnishes abundant evidence, and that it surrounds the sun there can be little question. It has been supposed by some to be of electric origin, in fact, an immense and permanent solar aurora; this opinion being based upon the resemblance which some of its features bear to those of the aurora borealis, as well as to the striking fact that the spectra afforded by the two bodies are

very similar to each other. A prominent line in the spectrum of the corona, as well as that of the aurora, is identical with one of the lines in the spectrum of iron; and it has been suggested that, perhaps, the corona is composed largely of the vapor of this metal, and that it is not confined to that portion of space where it is visible, but extends even up to and beyond the orbit of the earth, its visibility in the region around the sun being due to its greater degree of condensation near that body. If this be so, we have a possible explanation of the sympathy which exists between the disturbances in the sun's photosphere and the magnetic storms already alluded to in this paper, which, it is well known, are almost always accompanied by magnificent auroral displays. Closely resembling the spectra of the aurora and corona, is that of the zodiacal light, a phenomenon of which but little is known, but which is believed to be an immense lenticular mass of luminous matter surrounding the sun, and extending many millions of miles into space. Now, taking all these facts into consideration, our author proposes a theory in which he regards the corona, the aurora, and the zodiacal light as identical. He suggests that, in view of the large number of meteor systems which the earth encounters each year in its revolution, and of the great eccentricity of their orbits, there must be millions of such systems under the control of the sun's attraction, and that there must consequently be a great aggregation of meteors in the neighborhood of the sun itself. On this, and on other accounts, he infers that the part of space immediately around and within one or two millions of miles of the sun is literally filled with these bodies. Admitting this to be the case, it can readily be imagined that, by the intense heat of the sun, the meteors would become incandescent, and many of them vaporized, while the energy of the solar action would cause electric discharges to take place between them. Such a mass of meteoric matter would, undoubtedly, produce an appearance similar to that presented by the corona; it would account satisfactorily for the zodiacal light, as well as for the existence of rarified matter in the region where the aurora manifests itself; and if we take into consideration the action of those solar repulsive forces by

which the tails of comets are projected from the sun, supposing the same forces to be exerted upon the coronal matter, we are furnished also with an explanation of the radial beams which form so remarkable a feature in the structure of the corona, and are observable to a certain extent in the zodiacal light itself. Whether this explanation will stand the test of further observations and discoveries, it is, of course, impossible to tell; but it may, at least, serve to combine together phenomena which, at first sight, seem to be entirely distinct in their characteristics.

In view of the facts regarding the sun which we have been endeavoring to take account of in the preceding pages, it seems futile to undertake the task of determining what must be the general condition of that body, or the magnitude and nature of the forces which are in operation within his mass. When the spots were first discovered, it was easy to imagine them to be clouds. When, afterward, they were, upon good grounds, supposed to be openings in the photosphere, it was comparatively easy to believe that they were really holes which enabled us to look down upon the non-luminous body of the sun itself, especially when that suggestion harmonized with the idea that the sun was habitable, and was, perhaps, the abode of the blest. Even after the invention of spectrum analysis, it was not difficult to frame a hypothesis of the sun's constitution which would account for the facts observed. But after having, as it were, analyzed the sun, and found so many phenomena totally unlike any with which we are acquainted upon the earth, the spots, with their periodic motions and magnetic influences; the prominences and chromosphere giving evidence of the existence of agencies of which we can form no conception; the presence in the sun of the vapors of metals which exist here only in the solid or liquid condition, indicating an intensity of temperature almost infinitely greater than any with which we are familiar, and sufficient, it would seem, to prevent all chemical combinations; the spectroscopic indications of the presence of aqueous vapor in the spots; these, and many other phenomena which we might mention, apparently setting at defiance the physical laws which prevail upon this earth, the

reversal of the problem becomes as impossible as it is for the chemist to reconstruct an organized body after he has determined the chemical elements of which it is composed, and the proportions in which they are combined. In the present state of our knowledge, we are totally unable to construct any adequate theory of the physical constitution of the sun which would combine into a consistent whole the various results which modern investigation has disclosed.

Having, in the preceding discussion, considered some of the more important phenomena exhibited by the sun himself, let us now take a rapid survey of that body in the relations he sustains to the earth and the other planets which attend him. Perhaps the most important of these relations, from a practical point of view, is that which he derives from the power of gravitation, by virtue of which he regulates the motions of the planets, and holds them forever subject to his sway. It is true that this power is exerted, not by the sun alone, but by all the planets upon each other, and, in fact, by each particle of matter in the system upon every other particle; but the immense mass of the sun, preponderating as it does over the combined masses of all his attendants of every name and kind, places him at an immense advantage, and gives to him the high position of controller of the whole. By virtue of this overpowering force he holds them all firm and steady in their appointed orbits; and the little attractions they exert upon each other have no more effect in disturbing the general stability of the system than does the gentle breeze upon the mighty swell of the ocean. Were the sun's mass much smaller than it is, or were his gravitating influence suddenly to cease, where now there is order and harmony, the utmost confusion would prevail. Planets might dash against planets, and the 'wreck of matter and crash of worlds' become a vivid reality; or the orbs which now revolve so majestically around the great central body, receiving from him their warmth and light, and depending upon him for the orderly circuit of their seasons, might wander off into the unknown and cheerless regions of space. Their daily rotation on their axes would go on, as of old, but day and night, summer and winter, seedtime and

harvest, would come again no more, and all living things would perish under the blight of an unceasing frost. But, under the present order of things, no such sad fate can befall us, or our sister planets. They must move on under the orders of their ruler, the sun. He will keep them ever in their places, bound fast to him by chains which nothing short of Infinite Power can rend asunder. In parts of their orbits they seem to be, as it were, rushing downward upon him, ready to plunge into his fiery embrace, but, as they come nearer, they receive from him that increased velocity and change of direction which enables them to pass him safely by. Again, they seem to be moving rapidly away from him, as if they would escape from his control, but he still holds them fast, and, by diminishing their velocities, prevents them from wandering beyond their assigned limits, compelling them to turn again toward him. We know not what gravitation is, and, perhaps, we shall never know; but, considering its mighty effects, we can and must look upon it as the *direct* power of God, and the law of its action as the regular operation of his will.

Not only is the sun to be considered as our ruler in virtue of his power of gravitation, but he is also fully entitled to this designation, when we view him as the origin of our heat and light, and of all other manifestations of energy in the physical world. What are the sources of heat and light, and how these forces are maintained in the sun himself, we have no means of finding out. Various hypotheses have been suggested to account for them. According to the well-known and well-worn nebular theory, the sun is an immense globe of incandescent gas, from which heat and light are radiated, and the supply is kept up mechanically by the gradual contraction of his dimensions. Another supposes the sun to be a vast voltaic battery, in which heat and light, as well as electricity, are developed by chemical action, but it does not attempt to account for the chemical action itself. Still another hypothesis attributes the solar heat to the incessant pouring in upon that body of meteoric matter, with which the outlying regions of space are supposed to be filled. All theories have their supporters; many of them appear wild and extravagant; none

are, however, more astonishing than are the tremendous facts which they are intended to explain; but in the present state of science all are to be looked upon as bare hypotheses. But whatever may be the real origin of the sun's heat, it is certain that he is the fountain whence comes our own supply, and the cause of all the phenomena to which the action of heat gives rise on our earth. Thus, to the power of his calorific rays must be attributed the evaporation of water from the surface of the sea; the formation of winds, by which the moisture in the air is borne along until, coming in contact with lofty mountains, or with cooler strata of the atmosphere, it becomes condensed into clouds, and finally descends as rain upon the earth, where, mingling with the waters of the rivers, it at last reaches the ocean, and is ready to enter upon its round again. According to the doctrines of modern physics, heat and mechanical work are convertible, and it might prove interesting to enter upon a calculation of the amount of work performed by the solar heat in the production of the circulation above described. We could estimate the work done in the conversion of the water into aqueous vapor, in the elevation of this vapor into the atmosphere, in its subsequent condensation, and descent back from the clouds to the ocean, including in the latter all the useful purposes to which it may have been applied by the ingenuity of man; the sum total would represent the work performed by the water in its entire circuit, and would give us a fair indication of the mechanical efficiency locked up in the heat rays of the sun. Our author, Mr. Proctor, has made this calculation for us, and, according to his estimate, 'the force expended in the production of a day's steady rain over an area equal to that of the county of Middlesex, England, is equivalent to a mechanical power that would be competent to raise 1,000,000,000 tons to a height of three miles.' What must be the total amount of energy stored away in the solar rays may be inferred when we reflect that the county of Middlesex constitutes but a minute fraction of the entire surface of the earth, and that the amount of heat received by the earth is but one ten thousand millionth of the entire quantity radiated by the sun. And we must consider that the circuit of

the rains is not the only mechanical office performed by the solar heat. To the operation of this agency must also be attributed those grand systems of atmospheric and oceanic circulation which give rise to the trades and anti-trades, the monsoons, the gulf stream, and other 'rivers in the ocean'—systems which exercise so beneficial an influence over the climates of western Europe and America, and which require, for their production, an expenditure of energy well-nigh incalculable.

Equally important with the influence exerted by the heat and light-rays of the sun is that of the so-called chemical or actinic rays; and it is highly probable that from these rays, which possess but little thermometric or illuminating power, are derived the greatest part of the energies manifested in the animal and vegetable worlds. It is under the powerful influence of these rays that plants are enabled to absorb carbonic acid from the air around them, assimilating the carbon, and setting free the oxygen, that great life-sustainer of the animal kingdom. They likewise, under the same influence, take in water and ammonia, and from these, with the aid of small quantities of mineral matter derived from the earth, they elaborate those highly organized compounds which form the chief subsistence of man and the lower animals. We thus see that to the solar rays are due the vital energies of all living beings; and when these energies are exerted, either in the involuntary act of living, or in the production of mechanical work, we are only giving back to the earth that which was first extracted from her by the operation of the sun's chemical forces. Again, these chemical rays not only provide the force by which the circuit of matter from the mineral, through the vegetable, to the animal, and back again to the mineral condition is produced and maintained, but they also provide for us the sources from which we derive our artificial heat and light. Carbon, in some or other of its various forms, is the substance by whose combustion heat and light are evolved. Whether we obtain this material from the wood of our forests, from the oils extracted from the monsters of the deep, or from the beds of coal which lie buried beneath the earth's surface, in every case are

we utilizing force derived, in the first instance, from the chemical activity of the solar rays. And when we convert the heat so obtained into mechanical work, we are, so to speak, only consuming the solar force which had been previously stored up for us in the organisms which have furnished to us the carbon we are burning.

We are thus led to the conclusion that all the various manifestations of physical force on the earth have their origin in the sun. In him we find the source of the regular motion of our planet in its orbit; to the tremendous energy of his rays are due the soft breezes and the gentle rains, the terrible storms and tempests which sweep over the face of the earth, the mighty movements of the sea and the air, by which the heat concentrated in the great equatorial reservoirs is distributed to the remotest corners of the globe; from him emanates that mysterious influence by which the mineral constituents of the earth are transformed into living organisms; he supplies to man those abundant stores of force which enable him to satisfy his daily needs, to build houses, to level mountains and fill up valleys, to make for himself highways along which he can travel with the speed of the wind, and to build moving palaces in which he can traverse the seas without fear of wind or wave. And his store of force seems inexhaustible. True, philosophers have speculated as to the possibility of a diminution of the sun's energy, and have calculated that in the ages to come he must, of necessity, expend all that he possesses, until at length his strength shall be exhausted. But we have no evidence of any such diminution; the sun has not, in all his past history, lost one iota of his gravitating power; he shines as brightly now, and his rays are as intensely warm, as ever, while their chemical activity has not changed since man and animals and plants have dwelt upon the earth; and we have the fullest liberty to conclude that, however great may be the expenditure, there exists outside the sun some power which is fully adequate to maintain the supply. The sun, with his entire system of planets, is known to be moving rapidly through space, and space is boundless in extent; why may it not be that in his onward sweep he is constantly re-

ceiving from the vast fields of matter through which he passes, and with which he comes in contact, contributions of force sufficient to balance that which he loses by radiation? At first sight this hypothesis, which is a favorite one with many scientists, seems to place the whole universe under tribute to the sun; and this would accord well with the views of the old philosophers, who believed that the universe was made for man, that the only office of the sun was to give light by day, and that of the moon and stars to rule the night. But from our higher standpoint we behold, not our own sun and system only, but a multitude of suns, which no man can number, drifting through space, and, as we believe, supplying light and life to the planets which surround them, while their own stores of energy are being continually received from the nebulous or meteoric aggregations with which the interstellar regions are filled. This view of the subject is not *mere* conjecture. We have abundant reasons for believing that the whole boundless extent of space is occupied by matter, each particle of which is a centre of attractive and a repulsive force, and that the actions and reactions of these forces upon and against each other are abundantly adequate to produce all the manifestations of force with which we are familiar in our own system, and which we must believe to exist in all other systems throughout the universe. The amount of force in the universe is, then, limited only by the extent of space itself, and we cannot conceive of any limitation to the latter save by the power of that Being who called all things into existence. And the energy of the sun, tremendous though it be, is as inexhaustible as the fountain from which it is derived. So long as time and space¹ and matter and force shall endure—and they must endure until called back by the fiat of the Almighty Ruler of the universe into that nothingness from which they sprang into being at his word—so long will our sun, and the myriads of other suns, continue to exercise their controlling power, and to send forth their benign rays, bearing with them light and

1 We cannot admit that space was created, because, to our minds, it seems evident that it is, like God himself, uncreated, self-existent, and necessarily eternal.—ED.

heat and life to the worlds around them. And in all the various phenomena to which the operation of force gives rise, there is no diminution of force itself. There may be transformation or conversion of force from one form to another — mechanical force may be changed into heat, this into light or chemical activity, and this into electricity or vital action — but the amount of force, like the quantity of matter, in nature, is unchangeable. As Professor Tyndall beautifully expresses it (and with this we close): ‘To Nature nothing can be added, from Nature nothing can be taken away. . . . Waves may change to ripples and ripples to waves; magnitude may be substituted for number, and number for magnitude; asteroids may aggregate to suns, suns may resolve themselves into floræ and faunæ, and floræ and faunæ melt into air — the flux of power is eternally the same. It rolls in music through the ages, and all terrestrial energy — the manifestations of life, as well as the display of phenomena — are but modulations of its rhythm.’

ART. III.—1. *Progrès de la France sous le Gouvernement Impériale.* Paris: Imprimerie Impériale. 1869.

2. *Galignani's Paris Guide.* Paris: A. & W. Galignani.

3. *Notes from Paris.* Edinburgh: Edmonston & Douglas. 1855.

A great, wealthy, and well-governed city is one of the most stupendous monuments of human industry and genius upon which it is possible for us to gaze; and among all the leading cities of modern times the magnificent capital of France claims to be, in many respects, preëminent. It is the centre, not only of French, but of European, cultivation and refinement. From the days of Catherine de Medicis to those of the third Napoleon, it has been the ambition of the rulers of France to make Paris, as they grandly phrase it, the capital of the universe — the city of cities — the glorious dwelling-

place, which people of all nations would desire to see; out of which it would be impossible for a Frenchman willingly to live or to die.

In the writings of that arch apostle of infidelity, Voltaire, we find mention made of the great undertaking. In a letter addressed to the King of France, in 1749, he says: 'In ten years you might make Paris the marvel of the world. Such an undertaking would confer glory on the nation and immortal honor on the council of the city. It would encourage all arts, attract strangers from the extremities of Europe, and would enrich, instead of impoverishing, the State. It is high time that those who are at the head of the richest capital in Europe should render it the most convenient and the most magnificent. Heaven grant that some man may be found zealous enough to grasp such a scheme, with intelligence enough to put it into shape, and firmness of mind to follow it out: and, further, that he may have influence and popularity to command success.'¹ The great Napoleon, who, during his brilliant career, did much to carry out this favorite scheme of French ambition, said at St. Helena, 'It was the subject of my perpetual dreams to render Paris the real capital of France.' It was reserved, however, for his nephew, Louis Napoleon, to do more than any monarch has yet done in this direction. To a great extent the pet project has been accomplished. Paris is intensely national and yet cosmopolitan. The French language is the language of *le beau monde*, and Fashion rules the world despotically from the *Boulevards*. 'Paris is France,' the Frenchman's only home; and the dearest aspiration of the devotees of pleasure in all parts of the world is to spend some time amid its scenes of grandeur and festivity. The city is built principally on a vast plain; it is 21 miles in circumference, and contains, with its suburbs, a population of about two millions. The beautiful river Seine, which gracefully flows through its centre, is spanned by thirty-five bridges of elegant architecture; its banks are adorned with smooth and spacious quays and pleasant promenades, affording ample space for healthful recreation. Gorgeous palaces, churches,

1 *Caisse des Travaux de Paris.*

halls of science and literature, hotels, and other edifices, some of them rich in historical associations, and abounding in all that is necessary to minister to a luxurious taste, are seen in every direction. The intermediate spaces between the great buildings are occupied by parterres of lovely flowers; groups of splendid trees, sparkling fountains, and exquisite statuary combine to give inimitable beauty to the scene. It would take several days to examine, in detail, one of the palaces on the banks of this beautiful river, and there are not less than thirty or forty of them worthy of the attention of the stranger. One whose time is limited will, of course, visit the most notable first, and it is said that ninety-nine in every hundred require to be conducted on the second day to the *Louvre*, once a royal palace, but now a superb and extensive museum. There is more beauty concentrated in it, as far as the fine arts are concerned, than anywhere in Europe, not even excepting Rome. But of this we are not prepared to speak from personal observation, as we have not had the pleasure of seeing the seven-hilled city. It would take months to examine in detail this splendid temple of science and art, and no description could do justice to it. The bare recital of the names of the pictures, statuary, historical curiosities, etc., would consume hours. It is a quarter of a mile long, and has 300 apartments, one of which contains a thousand pictures by the great masters. There may be seen daily large numbers of visitors, of all nations, passing to and fro, and no small number of artists, male and female, busily engaged in the work of copying the productions of the great masters. In these galleries all ages and all countries are brought together, and an excellent opportunity is afforded for increasing our knowledge and gratifying our curiosity.

One of the greatest advantages of a residence in Paris is, that the Louvre and other noble institutions of the kind are open to the inspection of all, free of charge, and that in every department of science and art able lectures are delivered almost every day by learned and eloquent professors, whose labors tend to the diffusion of knowledge and the promotion of refinement and civilization.

The *Bibliothèque Impériale*, a mammoth national library, is another grand institution of Paris, highly prized by all intellectual residents. Unfortunately for us, it was closed for repairs during the whole of our sojourn in the city, and we saw nothing of it but the outside. It is common for foreigners to speak of the French as a frivolous people; and it is true that multitudes of them, in all classes, from the highest to the lowest, appear to be of this character; but from the great genius exhibited by the French in literature, science, and in all the arts of war and peace, as well as from the ample provision made for the literary and scientific culture for all who have taste and capacity for improvement, it is evident that they are, to say the least, not far behind the most famous nations of modern times in these matters. It was estimated that the number of volumes in the *Bibliothèque Impériale* was 1,100,000, which is 100,000 more than in the great library of the British Museum, London; but as we have stated in our article on 'London and its People,' in the July number of this *Review*, it is affirmed by English writers that their national library has of late years increased so rapidly in quantity and quality, that it may justly claim to be in advance of every other library in the world. We are not in a position to express our opinion on this point.

The *Jardin des Plantes*, with its *Musée Impériale d'Histoire Naturelle*, contains a fund of entertainment and instruction for all who reside in the city, or who visit it for a season. A college or body of seventeen professors, who have some twenty assistants in various departments, give gratuitous lectures on the anatomy and natural history of man, chemistry, geology, botany, and kindred subjects; and thus the greatest encouragement is given to all who wish to prosecute the study of the wonderful works of God.

The people of the French metropolis are well supplied with books and periodicals. With regard to the general character of the French newspapers and literary journals we are not prepared to speak, but all of them that we have seen are far inferior in mechanical execution to the newspapers of England and America. The *Moniteur*, the *Siecle*, the *Presse*, and

other political journals, sold at three *sous* each, are printed on very shabby paper, and frequently have half a page, or a whole page, occupied with a government advertisement, in which the principal words are displayed in large type, after the manner of a placard. This would not be tolerated in a respectable newspaper in any of the second or third rate towns of Great Britain. Copious theatrical criticisms and serial novellettes take up other large portions of space, so that there is not much left for *news*, which is the great staple of the most successful English and American newspapers. There is little space devoted to political discussions and communications. The French papers make a sorry appearance when contrasted with the English penny press, to say nothing of the *Times*, the leading journal of Europe. They also compare unfavorably with the newspapers which, before the war for Southern Independence, were retailed at one or two cents in the United States. The editors' names do not appear, but articles by other persons have the authors' names appended to them; even selections, such as *Nouvelles Diverses*, in small paragraphs, have the name in full of the compiler at the end. The leading articles of these papers were written with great brilliancy and power, but under many depressing restraints from the Emperor's censorship. Owing to their comparatively limited circulation and advertising patronage, the proprietors of French journals cannot pay liberally for contributions, when they pay anything, and good writers will not, ordinarily, write gratuitously. The French think that English publishers must be mad when they pay so largely to literary men for their services. For example, the *Daily Telegraph* (London) is said to have paid the enormous sum of \$50,000 a year to its Paris correspondent, who was 'hand and glove with the Emperor,' and who was, therefore, able to give such information, with regard to what took place at the French court, as the Emperor wished to go before the public, and which no other paper could obtain. From this and other causes the *Telegraph* became the most widely circulated daily newspaper in the world.

Those who are familiar with the light periodical literature of the French Capital will have observed that these popular

publications are sometimes edited by titled persons, and that many of the communications in them are credited to barons, counts, countesses, etc. These titles are generally assumed by the *feuilletonistes* for effect. The French law strictly forbids the assumption of titles; but these ingenious writers use their grand titles as *noms de plumes*, and, therefore, cannot be reached by the law. There is something in this, even in these democratic times. Perhaps if the unknown writer of these pages were to herald himself as 'the Rev. Edmund Noel Hamilton, D. D., A. M., F. R. S.,' etc., etc., etc., his lucubrations would acquire more dignity and consideration.

In answer to our objections to the course of the Emperor, Louis Napoleon, with regard to the liberty of the press, his friends urged the law of necessity — the tyrant's plea. They thus virtually confessed that the Empire —

‘That pagod thing of sabre sway,
With front of brass and feet of clay,’

would not stand, if the literati were allowed to discuss its merits; and yet they wanted us to believe that the Emperor owed his position to the free suffrages of Frenchmen, and that he was greatly beloved by the people. Thus it was with his uncle, Napoleon the Great. Elevated, as he was, to the imperial throne by an overwhelming majority of votes, amounting in appearance almost to unanimity, he did not dare to allow the newspaper scribes to discuss his claims, or the acts of his government! What a commentary on the power of the press and on the instability of the government. A government based upon true principles, and enshrined in the hearts of a virtuous people, would not shrink from acting on Milton's sublime aphorism: ‘Let truth and falsehood grapple: who ever knew her put to the worst in a free and open encounter?’

But we must return to our reminiscences of what we saw and heard in the French Capital.

The principal avenues, or *boulevards*, of Paris are very wide streets, beautifully adorned and pleasantly shaded by stately trees, situated between the broad footpaths, and the smooth, clear, and spacious body of the thoroughfare appropriated to those who go on horses or on wheels. We have never seen

any city elsewhere in which carriages run with as little friction and noise as they do on these *boulevards*. Thus the incessant rattling of wheels and clatter of horses feet, which in London and New York have kept us wide awake all the night long, are to a great extent avoided. This good is not, however, without its attendant evil. The vehicles pass along with so little noise, and with so much rapidity, that there is no little danger to pedestrians who venture to leave the sidewalks. Woe to the infirm and absent-minded ! The number of deaths from being run over in the streets of Paris is enormous. According to statistical returns, prepared by M. Poursageaud, a distinguished geometrician, the great number of carriages which perambulate Paris cause the death annually of 700 persons, and wound 5,000. In some public places coachmen advance on the pedestrian from five or six quarters simultaneously, and when they do not drive over him they insult him, and he deems himself fortunate to escape with insult. It follows from this calculation that carriages in Paris kill and wound more people than are killed and wounded by all the railways in Europe. They kill and wound more people than are deprived of life or injured by 4,000,000 carriages in other parts of France. The proportion of victims in Paris and the provinces is as 400 to 1. The French have a great reputation for politeness — we think, greater than they deserve ; it is certainly the case with their cabmen and omnibus conductors and drivers. We shall never forget the passionate sounds and violent gesticulations with which we were addressed late one evening in the *Champs Elysées* by a man who had been horse-whipped by one of these insolent drivers.

The *boulevards* are paved with smooth stone, or covered with asphaltum, and kept in excellent order. At intervals, under the shade of the trees, a supply of seats is furnished, upon which the wearied pedestrian may, if he does not choose to enter a hotel or restaurant, find repose. There are, also, between these sidewalks and the main thoroughfare, numerous very small and neat shops, or kiosks, in which the city newspapers and literary journals are retailed, principally by women. This saves the public from the annoyance caused by

the crowds of dirty, ragged, profane, and rowdy-looking boys who retail papers in English and American cities.

Many of the public and private buildings are truly magnificent, while all of them have an architectural beauty which we have never seen so generally sustained in any other city. One of the most recently opened of these avenues, the *Boulevard de Sébastopol*, cost sixteen millions of dollars. It was stated, when we were there, that the sum of eight thousand dollars was annually expended in planting trees in the streets and squares of the city, and that the number which had then been planted was about 196,000. The treasures of the world, the resources of art, and of the most delicate taste had been lavishly employed in giving an attractive appearance to the arcades, bazaars, passages, cafés, hotels, and other public places, and '*entrée libre*,' in large, gilded, capital letters, is placed over the illuminated doors. A vast variety of costly merchandise is displayed with consummate skill, intermingled with statuary and figures in wax, so well executed that the stranger does not at first sight distinguish the works of art from the men and women who serve in these establishments. Here, costly piles of gold and silver ornaments for male and female attire, sparkling with the light of diamonds and other precious stones; and there, large assortments of articles in porcelain, alabaster, glass, and ivory, meet the eye. Many are the ingenious contrivances to arrest the attention of strangers to the goods exposed for sale. In one place may be seen, in the establishment of a dentist, not only specimens of sets of teeth, but they are placed in mouths with the jaws in motion, as if in the act of masticating; in another, an automaton doctor extracting corns, and holding them up to the gaze of the crowd; or a rabbit playing on a guitar, rolling its eyes and tossing its head with the languishing air of a fashionable performer. Crossing from one broad thoroughfare to another are numerous 'passages,' long, narrow streets, roofed with glass, in which both buyers and sellers are sheltered from the inclemency of the weather, and which, when lighted up at night, present a most brilliant appearance, reminding the visitor of stories of fairy-land. In the most remarkable of these retreats

from rain, snow, or heat—the *Passages des Panoramas*, *Choiseul*, *Vivienne*, *Verdeau*, and *Delorme*, as they are the popular resorts of loungers about the gay city, excellent opportunities are afforded for the study of French manners. Outside of the stores are stalls, crowded with fashionable apparel, *bijouterie*, food, tobacco, wines, etc. On entering one of these we are surprised at finding them so small, just as we are sometimes surprised on getting better acquainted with fashionable, plausible men and women.

In front of the principal restaurants and cafés in the most fashionable thoroughfares of the city, when the weather is pleasant, may be seen groups of ladies and gentlemen seated at tables, talking, singing, drinking, smoking, some playing at cards, a few reading newspapers, and others gazing with apparent satisfaction upon the constantly moving multitudes who are passing to and fro before them. The costly equipages of *le grand monde*, the neat *voiture*, the crowded omnibus, the heavy wagon, with here and there a mounted soldier, and multitudes of pedestrians, people of almost every nation and tribe and tongue, in the greatest variety of costumes, pass along in quick succession. The tall, keen-eyed, vigilant *sergeant de ville*, neatly attired in blue, with bright buttons, a cocked hat, and sword hanging at his side, is always at hand to repress disturbance and to assist the stranger. And as Paris had a military garrison of 40,000 men when we were there, a military procession, with all the implements of grim-visaged war, was not an infrequent occurrence. There was also a plentiful mixture of soldiers of another kind—odd-looking men in old-fashioned black gowns, with broad-brimmed hats, or close-fitting black caps, covering their shaven crowns—the ecclesiastics of Rome, ‘the womb and centre of apostacy’—wearing no visible sword, but wielding one, ‘the point of which,’ as a French advocate puts it, ‘is everywhere, while the handle is at Rome.’ With these dark-robed priests we also saw occasionally a procession of boys in uniform, belonging to some one of the numerous charity schools of the city. It would not do to leave out of the picture a procession of girls, all very clean and neatly clad, escorted by sombre-looking

women, in uncommonly plain linen dresses and white linen bonnets, with crosses suspended from their waists. These are the Sisters of Charity, and they furnish a striking contrast to the gaily dressed women around them. *Malgré* the gloomy superstitions of these misguided daughters of France, and the evil reports current with regard to them, we must give them credit for their heroic self-denial and the good works in which they are engaged. The religious orders are by no means popular in Paris, but the Sisters of Charity are worshipped. As they pass through the streets on their mission of goodness, all men, both gentle and simple, salute them by uncovering their heads, but they pass on in silence without noticing the homage paid to them.

In some of the open spaces which are left where the *boulevard* is intersected by a *rue* or *faubourg*, a large assembly of both sexes may be seen around a man who is addressing them, making an abundance of gesticulations. If this were in one of our English or American cities, we should expect to hear a sermon or a political discussion, but in Paris nothing of so serious a nature is tolerated. It is either vocal or instrumental music, or dancing, or all combined; or a quack doctor recommending his nostrums with wonderful volubility. In other places, jugglers, itinerant tumblers, and mountebanks in grotesque attire, perform marvellous feats of dexterity and legerdemain for the entertainment of a delighted crowd. The Parisians of all classes appeared to us to be excessively fond of amusements, and the Emperor was perfectly willing to gratify them in this matter. Like the ancient Athenians, they were ever on the alert for something new in sensual pleasure. There were twenty three theatres in operation during the winter, and the average nightly attendance was 20,000. There were also 145 other places of amusement open, such as *café concerts*, *guinguettes*, etc., with an average nightly attendance of 24,000. The annual income of the theatres was nearly \$4,800,000, and yet, strange to tell, the French Legislature voted the sum of \$298,200 toward the support of some of these theatres. A crowd, or *queue*, as it is commonly called, may be seen at the doors of the popular theatres, patiently waiting,

sometimes for hours previous to the time of admission. Thus we have seen them, even on Sunday evenings, when we have been on our way to the Wesleyan Chapel, or some other place of worship. There they stood, men, women, and children, two and three abreast, eager to 'drive dull care away,' and receive such lessons as are inculcated in theatres and operahouses; and by the time a few small congregations have met in the churches, more than 40,000 of these votaries of Epicureanism are in the full tide of sensual enjoyment. It may be that in the morning thousands of them had sprinkled themselves with 'holy water,' crossed themselves, bowed to pictures and images, listened to and repeated prayers and masses in a dead language, and thus quieted their consciences for a season. Of the effect produced upon the people by these performances we shall have something to say presently.

'*Café concerts*,' or '*chantants*,' are held on Sunday evenings in splendid saloons, brilliantly illuminated with hundreds of astral lamps; the walls are so profusely supplied with mirrors that the place seems of greater dimensions than it really is. Nothing is charged for admission, but each person who enters and takes a seat is expected to partake of refreshments, for which higher prices than usual are charged, and collections are made for the performers. On an elevated platform at one end of the saloon are groups of male and female performers in theatrical costumes, who employ their artistic powers in vocal and instrumental music, and sometimes in regular theatrical performances, for the amusement of the multitude who sit at the tables below. This, we were told, is the favorite resort of the Paris *bourgeois*, who love to hear favorite music and songs while sipping their *café* or their *gloria*, or partaking of their evening repast.

Public squares of splendid architecture, ornamented with luxuriant trees, beautiful flowers, columns, statues, and exquisitely sculptured fountains, are a distinguishing feature of Paris. The enclosures in which fountains and flower-gardens are contained are surrounded by lofty iron railings with gilded spear-heads. These squares are kept scrupulously clean, and are well supplied with seats, affording a pleasant retreat to

the weary traveller. Some of these squares are also furnished with *kiosks*, a small, round, turret-like house, neatly painted and gilded, in which the city papers are retailed at three *sous*, or hired out at a *sou* each. The most perfect order is observed. The ubiquitous and ever vigilant police suppress the slightest tendency to disorder. For example, there happened to be a free and easy Englishman in our company when we paid a visit to one of these public squares, who took the liberty of lying down upon one of the benches, as we have occasionally seen Laodicean loiterers lie down on seats in our churches. A *sergeant de ville* immediately walked up to him and exclaimed, '*Ne couchez pas, Monsieur.*' The Englishman, not understanding the sentence, cried out, 'What does he say?' and a bystander responded in English: 'He says you must not go to bed there.'

What can we say of the beauty of the fountains in these public squares? No language is equal to the task, especially when, in addition to the charm of well-executed statuary, mingled with the graceful motion of the pellucid waters, the whole is crowned with the lovely but evanescent hues of the rainbow. Beautiful Paris! we do not marvel at the fact that thy children love thee.

We would not leave the reader under the impression that all of Paris presents the appearance indicated above, though the traveller may, if he wills it, starting from that superb temple of Romanism, *La Madeleine*, and passing down the *Boulevards Capucines, des Italiens, Montmartre, Bonne Nouvelle, St. Denis, St. Martin, du Temple*, and *Beaumar-chais*, to the *Place de Bastille*, and then returning by the *Rue St. Antoine* and the *Rue de Rivoli* to the *Place de la Concorde*, see more of artificial beauty and grandeur than we have seen in any other city. But there is a dark side to this, as there is to every other picture. When we leave the principal streets and squares we enter narrow *rues* and *faubourgs*, in which the lower classes reside, which are so much crowded that it is not pleasant to travel in them. Here we see things which are not agreeable to English and American eyes; and it is well, perhaps, that we cannot understand much of the

‘immeasurable tide of French speech’ which is flowing through these crowded thoroughfares. But even here we seldom see a small, shabby house. The dwellings of the people are from four to seven stories high; the basement is occupied with shops, restaurants, or places of business; above there is a low-pitched room called the *entresol*, variously occupied; above that again, the first, second, third, and fourth stories. The higher the people have to climb to their rooms the less they have to pay for them.

The people with whom we met in the streets and other public places of Paris, even those of the lowest class, had a clean, tidy, and cheerful appearance, and we rarely saw a mendicant¹ or a drunken person. The difference in this respect between London and Paris is very striking. The Parisians are great wine drinkers, spending annually about forty-nine millions of francs for wine, while only thirty-eight millions are expended for bread; and yet, during a residence of four months in the city, and passing much of our time in the streets and public places, we very rarely saw a man giving the slightest evidence of intoxication, nor did we ever see that most disgusting of all sights, a drunken woman. This cannot be said of London, Liverpool, Dublin, or Glasgow. Even in Edinburgh, under the very shadow of the house in which John Knox lived and died, we have seen more wretched victims of drunkenness than we saw all the time we were in Paris. Some attribute the superiority of the French to the English, with regard to the use of intoxicating liquors, to the difference

1 Some time after the above paragraph was written, a clever writer in the *Ayre* (Scotland) *Advertiser*, while describing his continental tour, expressed himself on this point as follows: ‘That in point of order, decorum, and the most perfect propriety, from the highest to the lowest grades of society, by day and by night, *moral* Britain *par excellence* has not a city or town of any consequence that can stand comparison for a moment with Paris. More openly profligate conduct may be seen on 100 yards of the Trongate of Glasgow, or Princess Street of Edinburgh, or on ten yards of Regent Street in London, in four minutes, than we saw during the fourteen days of our continental tour, including three days and three nights in Paris. The visitor will not see vice, nor the appearance of it, in the streets or in the public places of Paris. The depraved may find vice in any city, but among the Parisians it is at least hidden from public view.’

in climate, and others to the use of light wines by the latter. Both these causes are, no doubt, influential. National character is, we have no doubt, more dependent upon climate than is generally believed. A moist, cold, and foggy climate renders people phlegmatic, and inclines them to a large use of stimulants. Of this we have an example in the English and the Dutch. A sunny climate disposes people to be gay and light-hearted. Of this we have illustrations in the Italians, the French, and the people of the Southern States of America. Intense heat inclines people to luxury and voluptuousness, as in the case of the Turks, and those who live within the tropics. The heart is lighter in summer than in winter, and on a clear day than on a cloudy one; and these influences, during the lapse of ages, modify national character. The general use of light wines by the French and other continental nations, also, has a tendency to prevent the use of stronger stimulants. But both these causes will not fully account for the difference between the French and the English. We may find a stronger reason for it in the laws against mendicancy and drunkenness, and in the ability of the government to enforce the laws.¹ With nearly a hundred thousand men, consisting of soldiers, police, national guards, and others, always ready to enforce obedience, the lower classes of the population are kept in subjection, and thus the miserable and the degraded are kept out of sight. Seventy thousand paupers are supported at the public expense, and there are numerous hospitals and almshouses in which the afflicted in body and in mind are also taken care of. Nearly fifteen thousand of these unfortunates are at all times in these charitable institutions. There are also a number of orphan

1 Before leaving Paris in 1807, in a letter to the Minister of the Interior, the Emperor Napoleon said: 'I am going to be absent for a month. Be ready on the 15th of December to answer all their questions, which you will have examined in detail, that I may be able, by a general decree, to put the finishing blow to mendicity. You must find before the 15th of December, in the reserved funds and the funds of the communes, the necessary means for the support of sixty or one hundred houses for the extirpation of begging.' In the same letter he expresses the wish that, at the commencement of the fine season, France may present the spectacle of a country without a single beggar, and where all the population may be in action to embellish and render productive an immense territory.

asylums, into which not only orphans are received, but also children who have been abandoned by their parents, or whose parents certify that they are unable to support them. For the convenience of poor mothers, who are unable to take care of their own babies, a public nursery, or *creche*, has been instituted, which is managed by nuns. Swinging cradles are provided, in a large hall, for these little ones, and they have carpeted floors to play upon. Here, while their mothers are off at work, they remain from morning till night. Thus much of the misery that obtrudes itself upon the public gaze in other capitals is kept out of sight.

It is usual for foreigners who write about Paris to expatiate upon its splendor, its amusements, its language, its literature, its history, and the lives of its leading citizens. But it is generally forgotten that Paris is one of the greatest manufacturing places in the world. Paris has some eight or ten miles of workshops, piled up six or eight stories, in which it has been estimated that a million of laborers, mechanics, and artists, male and female, are employed. It would require a volume to describe, even briefly, these places in which the ingenious sons and daughters of France earn their daily bread, and supply the world with the products of their industry and skill. While defending this city against some charges which had been preferred against it, a French writer says:

‘What can Paris be reproached with? Is it for having been always penetrated with the sense of municipal and national rights, those two great elements of national existence? Is it for possessing that inimitable taste which distinguishes its products from those of all other cities — that universal aptitude which makes it a manufacturing city like Lyons and Muhlhouse, commercial as Southampton, industrial as an English factory, learned as a German university, and artistic beyond compare?’ This, except among Frenchmen, will be taken *cum grano salis*, but it suggests matter for thought and investigation, especially that portion of it which refers to municipal and national rights.

It is important to be noted, that the splendor and apparent prosperity of the capital, during the years of the Second Em-

pire, imposed a very heavy burden of taxation on all who resided in the city. Since 1854, the sum expended on public works, such as roads, bridges, streets, churches, markets, and gardens, amounts to nine hundred millions of francs, which was raised mainly by loans; and thus a debt has been incurred of about five millions of dollars per annum, which has to be paid by those who reside in the city. And in 1865 it was published that the *prefect* had on hand other works which would cost two hundred and twenty-three millions of francs more. The Emperor was no economist, in the narrow sense of that word — no penny-wise and pound-foolish man. He believed in spending money freely to keep the people employed. Hence he succeeded in getting for his own salary the comfortable sum of twenty-five millions of francs, and, to silence complaints on this subject, he caused it to be published that of this sum he had to pay seven million two hundred and twenty-five thousand francs for keeping up palaces; and that he expended five million francs in encouraging men of science, artists, agriculturists, inventors, in donations to churches and charitable institutions, and to persons in distress. These and other most curious facts may be found in a work compiled by order of the Emperor in 1869, entitled *Progrès de la France sous le Gouvernement Impérial*. How far this lavish expenditure kept up the Empire, and how far it contributed to produce the recent catastrophe, are problems for the future historian to solve.

With regard to the theatres and opera houses of Paris, it would not become us to say much, as we never were inside of any of them, and have nothing to say about them from personal observation. It seemed incredible to some with whom we conversed, that we could spend a winter in Paris without visiting any of those popular places of amusement. But so it was. We know enough of the history of theatres in our own and other countries to endorse Macauley's conclusion that they are 'seminaries of vice.' In ancient Athens much of the corruption of morals that existed was owing to the passionate fondness of the Athenians for these exhibitions, to which they were frequently admitted at the public expense. And it is probable that there never existed, since Sodom and Gomorrah,

a more profligate city. Paris, as we have already intimated, is in this respect following Athens. It is to be hoped that the influence of Christianity may yet arrest its progress in the way to ruin. M. Scribe, a successful French dramatist himself, in an address before the French Academy, observed that, 'If the stage exhibits a picture of French life, it must be reckoned as little less than one black tragedy of adultery, incest, and murder.' Under the influence of M. Scribe, and others, there has been some improvement, but none that makes any very material difference. There is more refinement in the language employed, but little difference in the sentiments expressed.

The questions — what shall we eat? what shall we drink? and where? are largely ventilated in Paris, as well as in other places, and they must not be omitted in this article. On a bright Sunday morning, when we were about to start for church, a lady, feeling some concern for the spiritual welfare of *François*, a servant in the hotel where we lodged, asked him if he intended to go to church that day. His reply was characteristic, we will not say of the *mauvais Catholique*, but of the unbelieving world generally: '*Il n'y a pas de pain à l'église; il faut travailler pour manger*,' significantly putting his fingers to his mouth, and repeating, '*pour manger*.'

The French cuisine is justly celebrated throughout the civilized world, and their cooks are generally preferred before all others. We have never seen a people who eat with more relish, nor who are better satisfied with themselves as long as this important matter is easy with them. There are *restaurants* and *cabarets* adapted to every pocket, and whether you go to the Café Cardinal, or other high class restaurants on the big *Boulevards*, or the *Palais Royale*, or to the humbler establishments of Duval, or, still lower, to the California, where every *convive* is in rags, it will be seen that the French have brought the art of cookery and serving up meals as near to perfection as may be. In this respect Paris is the dearest and cheapest place that we have seen. Those who want to dine with the rich and the great must pay for that as well as for their food. So that what they have to pay depends to a

great extent upon the company they keep. Duval had, at the time we were there, about twenty restaurants in different parts of the city, all conducted on the same plan, and at one of them, we were informed, nearly three thousands persons dined in a day. For two francs a variety of well-prepared dishes were furnished, and as each person was supplied with a bill of fare, with the prices attached, they could dine for as much or little as they pleased. For one franc (twenty cents) soup, wine, meat, vegetables, and bread were served up in good quality and comfortable style. The French take time to eat and enjoy their food; and in this matter their example is worthy of imitation by multitudes of Americans, who take little or no time to masticate their food. Some of us have discovered, rather too late in life, that there is no true economy in not allowing ourselves sufficient time for our meals.

Some revelations have been recently made with regard to the Parisian restaurants, which are not very pleasant to those who take their meals in them, and which will account for the low price at which, in some of them, certain dishes were supplied. A 'commissioner' of the London *Morning Post* made the following statement in a communication to that aristocratic journal:

'The Banlieue imitations of the luxuries of the *Boulevards* are rough and coarse, but the necessity for imitation has led the caterers for the working and the needy classes to produce repasts and amusements at an extraordinarily low figure. On all sides there are establishments where he of the light purse can get, at any rate, enough to satisfy his hunger for a few sous. The man in rags can get his penny dish, and his penny plate of soup. There is no waste of food in Paris. The relics of great feasts become at last the *fricot* of the poor. The children of misery buy the crumbs that are swept from under the rich man's table. Every atom in which their lies nutriment for the human frame is carefully preserved and used. The legs of fowls, left after the *diners fins* of Philippe's, are carried to the second-rate *restaurants*, to fall under the knife and fork of the puzzled wight, who is at once a *gourmet* and a lawyer's clerk. The coarser leavings fall to the share of the

rabbit-skin seller, the tumbler, the rag-picker, and all the varieties of necessitous working men and women. And surely it is better that there should be gigantic meeting places for the ravenous, like the California, where broken victuals are turned into soups and *fricots*, or the famous Robert dish, with its sharp sauce, than that those noisy bands of hungry creatures should find no food cheap enough to satisfy the hunger gnawing within them.'

Another London journal (*Daily News*) observes in connection with this topic: 'We are not sure that the economies of Paris are all to be praised. Here is something new. Oranges, though dearer than in England, are largely consumed in the French capital. Of course, many are sour, turn bad, and, for other reasons being unfit for food, are thrown into the street. But though thus condemned, they are not lost. The rag-pickers pounce upon them, and carry them home. They wash the oranges, and then place them in a tub of water to be macerated. Fermentation soon begins, and then the liquid is placed in a stone bottle, sugar is added, and the whole is corked down. When the fermentation has strength to blow the cork out the liquid is dubbed champagne *Mouffetard*, and among the poor of the *Rue Mouffetard* neighborhood it has a steady sale. It is the Veuve Cliquot of little nurses. We hope it will all be consumed in Paris, and not be exported to this country. At the same time that we make this discovery we observe that a French newspaper, the *Gaulois*, which is doing all it can to rival and supplant the *Figaro*, offers two bottles of champagne to every one who will subscribe to it for the next six months. But, of course, the premium will not be paid in champagne *Mouffetard*.'

We were gravely assured by our French professor of languages, that it is a vulgar error to think that the Parisians are much addicted to feeding on frogs; it was not the French, but the English, who were in the habit of eating those amphibious little quadrupeds! And we may remark, also, that hippophagic banquets had not been introduced when we were in Paris; but we have since learned that some feasts of this kind have been given at the *Grand Hotel du Louvre*. At one of these

130 persons took tickets. Horse soup, horse boiled, *aux choux*, horse *en bœuf*, *a la mode*, horse roast, etc., were successively eaten and discussed. At dessert, M. de Quatrefages drank to the memory of the illustrious Geoffrey de St. Hilaire, who first suggested the idea of turning that noble animal to the vile use of feeding mankind. One of the speakers contended that it was a mercy to horses to eat them, as pains would be taken to preserve them from injury before they were ready for the shambles, and they would be less subject to hard work and ill-treatment in their old age. How convenient it is to be a reasoning animal! Will the innovators stop at horses? An English wit comments on the matter as follows:

‘If horseflesh won’t suffice to feed the masses,
The next resource will certainly be asses;
And heaven only knows where they will end;
Some people won’t have left a single friend!’

To feed the vast population of Paris requires a beautiful co-operation of Divine and human providence, and when either fails, what confusion and misery will ensue! Provisions to the amount of upward of seventy-four millions of dollars annually are not easily produced, collected together, and prepared for use. Our visits to the *Halles Centrales*, the great market of *St. Eustache*, and the *Abattoirs*, were highly interesting and instructive in regard to this point; but if we attempt a description of what we saw and heard in them, it must be in another article.

We are reminded by the space already occupied that it is high time to say something about the moral and religious aspects of the modern metropolis of fashion and refinement. Volumes might be filled with truthful descriptions of the profligacy, infidelity, and superstition of the people of Paris, but candor compels us to admit that the views we had formed before visiting the city were to some extent changed before we left it, and that the Parisians did not appear to us to be in as low a moral and religious condition as they had been represented to be. The Emperor, from policy it may be, and the Empress, from principle, gave their influences in favor of the established religion, and others in high position, from various

motives, good and bad, have done the same thing, and thus, much external (to say the least of it) conformity to religious belief and practice has been brought about. When we spoke to our French professor about the multitudes we had seen in attendance at the French cathedrals and churches, he replied with a smile of apparent satisfaction, ‘ You will find that those who worship in the Catholic churches are principally women and children; the men are mostly of the opinions of Voltaire.’¹ But we must not attach too much importance to this dictum of our French master, as he was somewhat sceptical himself; and though he was highly cultivated, and had seen the world, we opine that he had not taken much pains to inform himself on this subject. We are fully persuaded, from all that we saw and heard, and from our subsequent investigations, that that marvellous mixture of Judaism, Paganism, and Christianity, denominated Romanism, has still a great hold upon the people of Paris and of France. And it must be borne in mind that there is a great difference between the gay capital and the rural districts. One of the deputies in the *Corps Législatif* said on this topic, ‘ If Paris be the head, the departments are the heart; and if the nation has a bad head, it has a good heart.’ The religious statistics of the whole country were given in 1866 as follows: Catholics, 35,000,000; Calvinists and Lutherans, 750,000; Jews, 75,000; Infidels and Bonvivants, 175,000 — total, 36,000,000. It is probable that there is a larger number of infidels than this, as they often conceal their sentiments from policy. It will be noticed, also, that the Wesleyans, Baptists, and some other minor denominations of Protestants, are not given in this enumeration. It must be noted, too, that in the beginning of the present cen-

1 The mention of Voltaire reminds us that while we were looking at the statue of this scoffing infidel, which occupies a niche in one of the porticoes of the arcades connecting the old and the new Louvre, we thought of an extempore epigram, ascribed by some to Dr. Young, author of *Night Thoughts*. The witty Frenchman, it is said, while on a visit to England, had been ridiculing Milton’s allegory of Death and Sin, when the English poet exclaimed:

‘ Thou art so witty, profligate, and thin,
At once we think thee Milton, Death, and Sin.’

tury the number of Protestants in France was estimated at 1,500,000, and that a writer in the *Times* (London), a few years ago quoted M. Edouard Porel as giving the number of Protestants at 2,000,000. However this may be, it is evident that the number of infidels in France, as indicated in the current phrase, 'infidel France,' is greatly exaggerated abroad; and that with 40,000 priests ministering at her altars, her multitudes of male and female members, her various religious orders, her great educational institutes, her convents, monasteries, and splendid church edifices, she is still the greatest Roman Catholic country in the world. We may say further, that a French gentleman—quoted in *Notes from Paris*, the small work mentioned at the head of this paper—says, in 1864: 'The change in the forty years that I have known Paris is prodigious in the religious behavior of the people, and notably in the upper classes. There is some hypocrisy, some cant, but be sure there is a vast increase of honest, zealous, religious feeling.'

The Protestants of Paris are estimated at 50,000, and if they were real, evangelical Christians, we might look for a great work to be accomplished by their instrumentality in this great citadel of Romanism; but we regret to state that, from the prevalence of Neological views among them, the progress of the Gospel is greatly retarded. But it has obtained a lodgment in the French capital, and must yet triumph. It affords us pleasure to state that there are several Methodist churches at work in the famous city, the most important of which, when we were there, was mainly supported by the Methodist Episcopal Church. It was our privilege to worship frequently in the 'American Chapel' in the *Rue de Berri*, and to listen there to eloquent and edifying discourses from the pastor, the late Rev. Dr. McClintock, and his assistant, the Rev. A. Longacre. The church was at that time conducted on the union principle, embracing all evangelical denominations. To receive the co-operation of Episcopalians, the liturgy of the Episcopal Church was used on Sunday mornings, and in the afternoon the service was non-liturgical. This plan did not, however, work to the satisfaction of some

members of the Episcopal Church, and they went off and established another congregation of American Episcopalians. There is not, we regret to say, even in a case like this, charity enough among Protestant denominations to cause them to give up their peculiarities for the general good, and the probability is that ere long all the American churches will have their own missionaries laboring in Paris. It is highly important to the religious interests of Americans in Europe that these missions should exist, and that they should be well sustained, for Paris is the favorite resort of American travellers, and many, no doubt, have been saved from the snares that beset them by the persuasive eloquence and faithful reproofs of pastors sent to watch over them from their own country. There are many, too, who sicken and die there, and the pastoral attention of a faithful minister of Christ, from their own country and of their own communion, will, in all such cases, be of great value. And we may say, *en passant*, that it would be greatly to the advantage of the Methodist Episcopal Church, South, if she could have one or more representatives there to preach and write for the press, and, as far as possible, to look after the interests of the Southern Church. And, further, multitudes of the Parisians themselves require the labors of Christian missionaries as much as the inhabitants of China do.

As we lived at no great distance from their 'chapel,' we had frequent opportunities of meeting with the little band of English and French Wesleyans, who worshipped in a small room, No. 24 in the *Rue Royale*. After walking through that magnificent temple of Romanism, *La Madeleine*, and looking upon its assembled thousands, its gorgeously apparelled priests, its exquisite statuary and paintings, and listening to the strains of music which resounded through its spacious aisles, the contrast furnished by the small, dingy room, badly lighted, with its little band of worshippers, was striking, and we imagined that we heard a voice sarcastically asking, 'Can these little ones succeed in their puny efforts to overthrow the colossal power of Rome?' Humanly speaking, the prospect seemed gloomy enough, but not more gloomy than that of a small company which, nearly two thousand years ago, assem-

bled in a small chamber in Jerusalem, waiting for 'the promise of the Father.' Being 'filled with the Spirit,' and taking to themselves 'the whole armor of God,' the primitive Christians rushed into the fight, and the strongholds of Judaism fell before them, as the strongholds of Popery and infidelity must surely fall before the united efforts of Bible Christians, for the great Head of the Church has said, 'Fear not, little flock; it is your Father's good pleasure to give you the kingdom.'

Since we left Paris, the Wesleyans have succeeded, after arduous efforts, in the erection of a place of worship far superior to the modest chapel in which we worshipped with them. After the old chapel had been occupied twenty years, the new buildings in the *Rue Roquépine* were opened. They included a place for public worship, lecture-room, school-rooms, book-rooms, and two ministers' houses. This elegant stone structure, under the shadow of the magnificent *Madeleine*, with its architecture in accord with that of the contiguous *boulevard*, bears witness to the liberality of English, French, and American Christians, whose combined efforts resulted in its erection. The church will seat from 600 to 700 persons. The book-room, like the chapel, was a small affair when we were in Paris, but it has been the means of sowing the seeds of much evangelical truth in Paris and in other portions of the *plaisant pays de la France*.

Closely connected with the state of morals and religion in a country is the increase or decrease of its population. France is not densely populated, though comparatively few of its people emigrate. The French are eminently a stay-at-home people; more than half the population earn their subsistence by healthy agricultural employments; more than half of these agriculturists are land-owners, who live on their estates and cultivate them themselves. Land is cheap, the average price being \$5 per acre; the means of living are abundant, and yet the population increases very slowly; and from this cause alone, unless a remedy shall be found, France must inevitably decline in the scale of nations. In Paris the population would die out if it were not recruited from the provinces and from other countries. From recent calculations made by her

Majesty Queen Victoria's Secretary of Legation in Paris, it appears that at the present rate of increase it would require 198 years to double the population of France, while it doubles in Great Britain in fifty-two years. In this country the population doubles itself in less than twenty-five years. The excess of births over deaths in France is only 11 per cent., while for Europe in general the average is from 40 to 45 per cent. Various causes have been ascribed for this — the military conscription, the celibacy of priests, monks, and nuns, the tendency of the rural population to the great cities, and the weight of taxation; but all these combined will not account for the fact. Again we must refer to our French professor of languages. He solved the problem in one word, '*Luxury!*' There is a world of wickedness in that word *luxury* as used by Monsieur * * * * *. Multitudes in France marry, not for love, but for convenience, and after marriage they know but little of domestic life. The wife, devoted to such worldly pleasures as are usually expressed by the word '*life*,' dreads maternity, which impairs her beauty and keeps her at home; and when unable to entirely evade the laws of Nature, she transfers her children to mercenary hands, in which the poor little creatures become rickety or contract some fatal malady. The *bourgeois*, too, who have not the means of indulging in the pleasures of '*high life*,' busily engaged in trading and manufacturing, do not choose to have many children, and when they have children they send them into the country, under pretext of fresh air, or to enable the mothers to help their husbands in the shops. Rich people can get wet nurses, but the middle classes are forced to trust to *meneuses*, baby-farmers of the worst kind, who keep the poor little creatures at their own houses in the most economical way they can, and with the least attention consistent with the slightest regard to appearances; at any rate, without that devoted care which none but a mother can bestow. Of the 53,000 children yearly born in Paris, 18,000 are put out to nurse in the provinces. The mortality among the infants thus transferred from their natural protectors and guardians to mercenary and vicious hands is very great. We deeply regretted, while in England,

to see that this abominable system of 'baby farming' had been introduced into our fatherland, and that frequent illustrations of its deplorable consequences appeared in the journals of the day. Add to this the great spread of prostitution in France, largely diminishing the number of marriages, and we shall need no other reasons for the slow increase of population, nor for the deterioration in the physical and moral character of a large portion of the people. Nearly half the children who are born in Paris are born out of wedlock; but the number of illegitimate births throughout France does not reach a tenth of the whole. These startling revelations, made by census takers and moral reformers, have produced a profound sensation in some quarters, and have led to a little improvement; but still the work to be done is immense, if the gay metropolis is to be saved from ruin.

Of the *ex-dévant* Emperor, Louis Napoleon, the *beau idéal* of a modern Parisian, we may not say much at present. Not long since he was spoken of as the 'Sphinx of the Tuilleries,' and all Europe, and large portions of our continent, awaited with no little anxiety his enigmatical utterances. Regarding his uncle, Napoleon the Great, as a political Messiah,¹ and himself as another child of destiny — the greatest man of the greatest country of the greatest age in the world's history — he attempted great things, in order to make Paris the 'capital of the universe,' and to arrest the progress of the Anglo-Saxon race by setting up a Latin empire in Mexico. How and to what extent he failed, future historians will tell. His political opponents speak of him as 'Napoleon the little;' but no small man could, in this age, rule the French nation eighteen years, and conduct them to the degree of material prosperity which they enjoyed before the Empire was knocked down by the long-meditated and well aimed blows of the German avengers. A people so deficient, as Lamartine acknowledges, in *conscientiousness* — 'the most ungovernable people in Europe,' as the Czar Nicholas affirmed — who have changed their form of government thirteen times in eighty years, could not

1 Ideas of Napoleonism, by Prince Louis Napoleon, published in London in 1839.

be held together eighteen years, and kept in the high position that France had before the war, unless the reins of government had been held by one far above mediocrity.

A multitude of topics connected with our subject rises up before us and invite attention, but our space is full, and we leave our subject with as much unwillingness as we left Paris itself when the time of our sojourn came to an end. A legend concerning the Arabian imposter Mahomet is to the effect, that when he got his first glimpse of Damascus he refused to enter, affirming that no man could have more than one Paradise, and he intended to have his in heaven. What would he have said if he had seen Paris in the height of its glory? Of all the places which we have seen, or of which we have heard, Paris offers the greatest inducements to the mere man of the world, who has the means of indulging in its pleasures. And even the sincere believer in another world, and 'a city which hath foundations whose builder and maker is God,' will find in Paris, if he can withstand its temptations, one of the most inviting fields of usefulness on earth. The Christian man or woman, who lives there in the very centre of the world's science and civilization, occupies an exalted position, where it is difficult to stand — on the brink of a seething whirlpool, into which it would be damnation to fall. But if he should be gifted with power to speak eloquently, or better, to write well, or best of all, to speak well, write well, and live well, for Christ, and for the advancement of the kingdom of heaven, the position is one that an angel might covet. From that gorgeous metropolis of the fashionable world lines of influence extend to the utmost limits of civilization, and nowhere else can greater openings for usefulness be found. Bitter tears have been shed on account of the unfaithfulness of many Christian travellers who have visited Paris; while, on the other hand, there has been joy on earth and in heaven from the results of the labors of others, who, in that centre of fashion and sensuality, have been faithful unto death. The pure blood of martyrs has often flowed in its streets; the ashes of the sainted dead, who gave their bodies to the flames that they might keep their consciences clean, still mingle with its

dust; and the living are called upon to revere their memory and to emulate their virtues. For Paris and its people the prayers of Christians all over the globe should ascend to heaven; and all whose duty or privilege it may be to visit the great city should give as much of their time and influence as they can to the small but devoted band of laborers who are earnestly 'contending for the faith once delivered to the saints,' and valiantly fighting against the combined hosts of sensuality, superstition, and atheism.

ART. IV.—*Elements of Geometry*. By A. M. Legendre. With Additions and Modifications, by M. A. Blanchet, Élève of the Polytechnic School; Director of Studies¹ of Sainte-Barbe. Translated from the eleventh French edition, by Francis H. Smith, A. M., Superintendent and Professor of Mathematics in the Virginia Military Institute, Lexington, Virginia. Baltimore: Kelly & Piet. 1867.

Professor Smith is, unquestionably, a man of no ordinary genius. No one can possibly doubt this, who has the pleasure of a personal, or a literary, acquaintance with that distinguished gentleman. His genius is, indeed, preëminent, rising high, and shining brightly, above a generation of pigmies and blunderers.

We do not mean by this, however, that his genius is universal. Indeed, we have very little respect for your universal geniuses, for your admirable Crichtons, who know all things,

1 It is very natural that Professor Smith should magnify the author whom he translates, and whose work he wishes to sell. But this is no reason why he should mistranslate the title-page of the work. According to the translation, M. Blanchet is 'director of studies of Sainte-Barbe,' which leaves the reader free to imagine that he presides over some great university or college, known in France under the name of 'Sainte-Barbe.' But the original says, that M. Blanchet is 'director of the studies of the preparatory school of Sainte-Barbe.' We have no doubt that there are, at this time, much better preparatory schools in the State of Virginia, whose 'directors' are better qualified than is M. Blanchet to make improvements in the geometry of Legendre.

and who do all things equally well. They are apt to be a little like General Andrew Jackson, as described by Richard Henry Wilde, who replied to the inquiry of a certain Grand Duke, that he might write to the General, then President of the United States, in any language he pleased — Latin, Greek, German, Spanish, Italian, French, or English — for he understood them all equally well! This is not the case with Professor Smith. Omniscience is not one of his foibles. He may, perhaps, think so himself, but he will find no one to agree with him. His capacity, his genius, is limited to certain directions; but, then, in its own particular direction, it is transcendent, it is wonderful, it is without a parallel or a peer.

We are not sure, however, that he understands his own forte. It is not every man of genius who knows what he is good for; and, sadder still, it is not every man of genius who is aware of his own deficiencies. It is right here, indeed, that the great weakness of Professor Smith lies. He may know what he is good for; he certainly does not know what he is *not good for*. All men agree that he has a marvellous genius for management — that there is not, in the whole South, another person who could have displayed as great skill as he has shown in the building up of the Virginia Military Institute. All honor to his genius, we say, for his great achievement. It is marvellous in our eyes. We have not the most remote idea how this wonder has been wrought by him. But somehow or other, we know not how, he always contrives to get around the Legislature of Virginia, and obtain all he wants for his Institute. We have never read nor heard of anything like it, except in the story of the single man, who ‘dispersed in the woods,’ surrounded ‘a parcel of Indians,’ and ‘took them all prisoners.’ Some persons, because they could not understand *how* Professor Smith gets around the Legislature of Virginia and takes them captive, have given him the credit of a very great genius for *circumnavigation*. But we have no opinion to express on the subject. We simply admire and applaud the wonderful achievement, without pretending to the least insight into the *modus operandi* of the magician. We could, indeed, as easily imagine how Shakespeare created

one of his great dramas, as how Professor Smith has built up and preserved the Virginia Military Institute.

The mathematical career of Professor Smith has filled us with as great admiration and wonder as his administrative ability. The work before us, for example, displays a most marvellous genius; but then, since the truth must be spoken, it is a genius for *blundering*. How he could have written such a book, is more than we can possibly conceive. He must have originally possessed some talent for the science of mathematics, at least for the acquisition of other people's ideas, for he graduated at West Point, and even stood high in his class. But the time has past when graduation at the National Military Academy can, without other evidences of proficiency, preserve a man's reputation as a teacher of mathematics. A sheep skin, even from that academy, can no more make a great mathematician than it can make a great general. If, indeed, Professor Smith ever had a genius for mathematics, or any solid attainments therein, he must have lost them, somehow or other, in his manœuvres to 'disperse himself,' with a view to surround and capture the Legislature of the Old Dominion. We propose, in this paper, to illustrate, by an appeal to the book before us, his marvellous genius for blundering in the simplest elements of geometry. We have no wish to dispel the very happy hallucination, under which he has so long labored, that it is his mission to elevate and bear aloft the standard of mathematical education in the South; but we do intend, if possible, to protect the interests of Southern science, and Southern education, against the inroads and ravages of his very extraordinary genius.

His work is, indeed, disfigured, from beginning to end, with blunders in definitions, blunders in first principles, blunders in theorems, and blunders in demonstrations. It is the production of a marvellous genius. Let us now see if this statement, however strong, is not literally and strictly true.

To begin with the Preface, the author there says: '*Geometry* rests upon self-evident truths; and from these, by the rigid processes of *deduction*, the student of mathematics is afforded a valuable mental discipline, which supplies an important

correction for some of the evils resulting from an exclusive devotion to *analysis*. Hence its importance as an essential branch of academic instruction.’¹ Here the author falls into the vulgar error, that self-evident truths,’ or axioms, are the first principles of the science of geometry, from which, by rigid processes of *deduction*, its discoveries are made. The truth is, however, that the properties of triangles, or quadrilaterals, or circles, or cones, or cylinders, or spheres, are deduced, not from self-evident truths or axioms, but from the definitions of those several figures. In other words, *definitions*, and not axioms, are the first principles of the science, from which all its beautiful truths are deduced. If Professor Smith had only read Plato, or Locke, or Stewart, or any other writer, on the first principles of geometry, except Davies, he would not have fallen into so gross a blunder. But this is only ‘the beginning of sorrows.’ It is, moreover, a comparatively pardonable blunder, because it relates, not so much to the science as to the philosophy of geometry. But, surely, it behooves every teacher of the science, especially every one who aspires to the high office of *the teacher of teachers*, to understand what are its first principles or premises. Self-evident truths or axioms are not the first principles or premises of geometry, but only the connecting links by which its conclusions are fastened, as by a chain of adamant, to its first principles or premises. These first principles, or premises, or ‘postulates,’ are its definitions.

‘Geometry owes its origin, as a science, to the inventive genius of the Greeks.’² Nor is this true. Geometry was a science long before the Greeks had an existence. If Montucla may be trusted, this noble science was cultivated in China, India, Egypt, and Chaldea, long before its earliest dawn in Greece. The Greeks, in fact, learned the science from their predecessors, to which, however, they made many valuable additions of their own. No one ever supposed — certainly no historian of the science ever supposed — that Euclid was the inventor of the *Elements*. He only collected them from all quarters — whether of Chinese, Hindoo, Egyptian, or Chaldean

1 Preface, p. 1.

2 Preface, p. 1.

origin — and, for the benefit of all ages, embodied them in his immortal work.

‘The demonstrations left by the Greek geometers,’ says Professor Smith, ‘are models of accuracy, clearness, and elegance, and are admirably adapted to training the mind to habits of close reasoning and luminous arrangement.’¹ This is true. But it is evidently a truth which our author has only learned and repeated by rote; for, instead of seeing this truth for himself, he blunders most egregiously, as we shall presently demonstrate, precisely in those portions of the science in which the Greek geometers have been most remarkable for their ‘accuracy, clearness, and elegance.’ Admirable as these things are for ‘training the mind to habits of close reasoning’ and accurate thinking, little benefit has our author seemed to derive from them.

‘Soon after the revival of letters, the principal works of the Greek geometers were translated in Italy by *Commandine*, embracing fragments of *Apollonius’ Conics* and the *Collections of Pappus*. Toward the close of the sixteenth century, *Vieta* restored the lost Tract of *Tangencies*, and *Snellius* reproduced the *Plane Loci*. Soon afterward *Viviani*, the disciple of Galileo, supplied the fifth book of *Apollonius*.’²

In reading this very learned passage, the question forces itself upon our minds, For what earthly purpose was it written? It certainly could not have been intended for those who had read the most meagre sketch of the history of mathematics that was ever written, since it could not possibly give one particle of information even to such readers. For whom was it intended, then?—for those who knew nothing? If so, it left them just where it found them, with the exception of a few learned and utterly unintelligible names. ‘*Apollonius’ Conics*,’ the ‘*Collections of Pappus*,’ ‘the lost Tract of *Tangencies*,’ ‘the *Plane Loci*,’ and ‘the fifth book of *Apollonius*.’ Alas! and what are these? we seem to hear the unlearned and astonished reader exclaim. We seem to see him, moreover, open his mouth and gape with amazement at the vast erudition of the learned writer. He certainly does not, and cannot, derive

1 Preface, p. 1.

2 Ibid., pp. 1 and 2.

one particle of information from this list of bare names (or dry bones), except that the things named, whatever they may be, were once upon a time *actually translated*!

Yet, in spite of these striking intimations of the writer's mathematical learning, we doubt if he knew much more about the works of which he has given us the names than did the most unlearned of his readers. 'The lost Tract of *Tangencies*.' By whom was it originally written? What did it contain? Was it of great or little value? Did *Vieta* really restore it, or only fancy that he had done so? On not one of these points does Professor Smith throw one particle of light or information; he only tells us that '*Vieta* restored the lost Tract of *Tangencies*.' Did he ever see that work of *Vieta*? We do not believe he ever did, for, if he had ever seen it, he would have enriched his Geometry with some of the beautiful series of problems it so beautifully solves. Those twelve problems, one and all, together with their solutions, are set forth in the Appendix to Todhunter's recent edition of *Euclid's Elements*.¹ Not one of them, however, is to be found in any of the *Appendices* to Professor Smith's work. We must suppose, then, either that he was ignorant of the restored 'Tract of *Tangencies*,' or that he preferred the ordinary problems and solutions of commonplace geometries to the transcendently beautiful inventions of *Vieta*. We suppose, in other words, either that he was ignorant of the 'Tract' of which he so learnedly speaks, or that he was unable to appreciate its beauty. He may choose for himself on which horn of this dilemma he will be impaled.

1 We should have been better pleased, if Professor Todhunter, in using the beautiful inventions of *Vieta*, had given that great mathematician the credit of them. This was due to his fame. But perhaps Professor T. derived these inventions, not from *Vieta* himself, but from some second-hand geometer, who, like so many others, has decked himself out with the feathers of that great mathematician. If so, then the original thief is the principal culprit, and not Professor Todhunter. An American writer—a graduate of West Point and an officer in the Federal Army—has appropriated the whole tract of *Vieta* on *Tangencies*, and passed its beautiful solutions off as his own, in one of the *Reports of the Smithsonian Institute* at Washington City. We shall hereafter, perhaps, have occasion to pluck these borrowed plumes from the brow of the officer in question, and replace them in *Vieta's* crown of glory. 'Honor to whom honor is due.' But how did it happen that Professor Henry, or his learned advisers, permitted the inventions of *Vieta* to find their way, as original problems and solutions, into the proceedings of the *Smithsonian Institute*?

But we must now (leaving the Preface) proceed to the more serious blunders of the work itself.

To begin at the beginning, we shall notice, in the first place, the blunders in its definitions. According to the definition of M. Legendre, a right line is 'the shortest distance between two points.' Now this is not the definition of Euclid, nor of Archimedes, nor of any other Greek geometer. Indeed, it defines a right line, not by giving us the idea of *straightness*, but by its *relative length* when compared with certain other lines. 'It is the *shortest distance* between two points.' This is not *straightness*; it is merely *relative length*. This property, it is true, necessarily follows from the idea of a right line, or of *straightness*, but it is not that idea itself. Hence it is not the true definition of a right line. Nor has it been of any use to Legendre, in his Geometry, *as a definition*. It is, in reality, merely an axiomatic corollary, which flows from the idea, nature, or definition of a right line. Accordingly, in the works of Archimedes—the very greatest of all the Greek geometers—we find this modern definition, that 'a right line is the shortest distance between two points,' among his 'axioms,' and not among his definitions. It is certainly better than Euclid's definition of a right line, with which his very greatest admirers, not even excepting Dr. Robert Simson, have found fault; but it is still very far from being perfect in itself, or useful in the construction of the science of geometry. Indeed, if it is useful at all, it is only so as an *axiom*, and not as a *definition*. It may serve as a link in the chain of our reasoning, but not as a definition from which conclusions may be drawn. Even Legendre has not drawn a single inference from this definition of a straight line.

We could not, of course, expect Professor Smith to improve upon Legendre's definition of a right line. We might, indeed, just as well attempt to extract light from a cucumber as to expect minute accuracy of thought, or clearness of conception, from a mind like his. We should not be at all surprised, however, if he should depart from the respectable definition of Legendre, only to fall into some ridiculous amendment of his own. This is exactly what has happened to him. '*A right*

line,' says he, 'is an indefinite line which is the shortest distance between any two of its points.' Behold, then, the definition of the *Virginia Military Institute*! Behold the clear insight, the wonderful genius, of the great Mogul of that glorious Institute! 'A right line is an *indefinite line*.' Hence, if it is only a foot long, or a yard long, or a mile long, it cannot possibly be a right line, because it is not 'an indefinite line!' Nothing is, or can be, *straight*, unless it is also indefinite! We have often heard it said that 'there is nothing new under the sun,' but we have never believed the assertion. There are many new things, indeed, and wonderful, in Professor Smith's Geometry.

One of the most striking of these new things, is his definition of an angle. 'It is very difficult,' says Professor Leslie, 'to define an angle.' Professor Smith defines it with infinite ease. He seems never to have dreamed, indeed, that such a definition could possibly be attended with the least difficulty; so great is the privilege of genius. Even Euclid's definition, that 'a plane rectilineal angle is *the inclination of two straight lines to one another*,'¹ is criticised by that clear-headed and acute thinker, Professor Leslie. But if Professor Smith had given such a definition, or even made an approximation to it, we should have been willing to admit that he had really profited a little by 'the accuracy, clearness, and elegance' of the Greek geometers. But he does not, in fact, make the most distant approximation to the definition of Euclid, or of any other respectable geometer. If, indeed, he had only fallen into some of the common errors, in his definition of an angle, we should have let him go scot free. But his error is no common one. It is peculiar to himself; it is original; it is transcendent—absolutely transcendent—in its wild departure from all the 'accuracy, clearness, and elegance' of the Greek geometers. Here it is: 'The figure formed by two right lines, A B, A C, which cut each other in A, is called an *angle*. The point A is the vortex of the angle, and the lines A B and A C are its sides.'



Now, what man, woman, or child, could form the idea of an

1 Todhunter's Euclid.

angle from such a definition. There is 'the figure,' as Professor Smith calls it, with its two sides. Produce these sides; make them ten, a hundred, a thousand times as long as they are, and behold how the figure, *i. e.*, the angle, grows in its dimensions! Yet everybody knows, that whether the sides be great or small, finite or infinite, the angle is precisely the same, so long as the inclination of the sides to one another remain the same. 'The figure,' as it is called, is *not* the angle. The figure may be small or great, finite or infinite, and yet the angle, as every school-boy knows, may remain the same. In truth, however, 'the figure formed by the two right lines A B, A C,' is, in the geometrical sense of the term, no *figure* at all. 'A figure,' says Euclid, and Playfair, and Todhunter, and every other geometer in the world, except the Professor of Mathematics in the Virginia Military Institute, 'is that which is *enclosed* by one or more boundaries.'¹ Hence, 'the figure formed by the two right lines A B, A C,' is not a figure at all, because it is not '*enclosed*.' It takes at least three right lines to make a 'figure.' Two right lines may, if any one pleases, make a figure in the loose, popular, unscientific sense of the term; but they make a very sorry figure at best — loose, unjointed, and incomplete — like the figure which our author makes in the science of geometry.

Where our author got his definition of an angle, it is impossible to imagine. It is certain that he could not have found, or invented, a worse. Professor Davis did, in one of the numerous editions of his *Legendre*, approximate to the strange and unaccountable absurdity of this definition. He called 'an angle *the space* included between two right lines meeting in a point.' But that definition — the only one we have ever seen that could bear a moment's comparison with Professor Smith's — has long since disappeared from his *Legendre*.

There are four blunders in our author's definition of the circumference of a circle. '*The circumference of a circle*,' says he, 'is a curve line, all the points of which are equally distant

1 Todhunter's *Geometry*, Def. 14; Playfair's *Euclid*, Def. 10. Both authors use precisely the same words in defining 'a figure.'

from a point within, called the centre.' Draw, then, on the surface of a sphere, any figure you please — say the figure 8 — and you will have one of the Professor's circumferences of a circle! Or, if we suppose, as Euclid does, that the line lies in 'a plane,' still the arc of a circle answers to our author's definition of a circumference. For an arc '*is a curve line, all the points of which are equally distant from a point within, called the centre.*' This definition is, however, not new. If Professor Smith will consult Montucla's *History of Mathematics*, he will there find his definition criticized, and the two blunders above pointed out, signalized as modern departures from the accuracy of Euclid. Or if he will consult Professors Playfair and Todhunter, he will find the admirable accuracy of Euclid reflected in their works. A circle is defined, by these two disciples of Euclid, in precisely the same words. 'A circle,' say they, 'is a plane figure contained by a line, which is called its circumference, and is such, that all straight lines drawn from a certain point within the figure to the circumference are equal to one another.' Thus the circle, as defined by them, is 'a plane figure' that is, a figure described in a plane, and not on the surface of a sphere. Again, it is 'a plane figure;' that is, according to their definition, a space 'enclosed by one or more boundaries.' Hence, the arc of a circumference does not answer to their definition of the circumference itself. Thus both the blunders perpetrated by Professor Smith, and long ago refuted by Montucla, are carefully avoided by Playfair and Todhunter, as well as by Euclid himself. It is one thing to talk, parrot-like, about the 'accuracy, clearness, and elegance' of the Greek geometers, and quite another to study their works, and profit by the models they place before us.

The two blunders above noticed are 'errors of defect'—that is to say, they omit what is necessary to complete, or render perfect, the definition of a circle. In addition to these, Professor Smith's definition contains two 'errors of excess;' that is, two things which are not necessary to a perfect definition of the circumference of a circle. '*The circumference of a circle,*' says he, '*is a curve line,*' etc. How could it be otherwise than a *curve* line? If, by the terms of the definition, all

its points are to be 'equally distant from a point within,' how is it possible that it could be otherwise than a perfectly round *curve line*? Hence this circumstance should not be stated, because it is contained, by obvious and necessary implication, in other terms of the definition. Such 'errors of excess' impair the scientific precision and beauty of our definitions in geometry, by loading them down with unnecessary matter, or appendages. They are unseemly excrescences. Accordingly, both Playfair and Todhunter say: 'A circle is a plane figure contained by a line,' not by a '*curve line*.' They do not state what every one must necessarily see — namely, that if the line is, at all its points, equally distant from a point within, then it must be a *curve line*.

There is, however, in the definition of Playfair and Todhunter, as well as in that of Professor Smith, one 'error of excess.' This is their first and only error, while it is the fourth of Professor Smith. It is, moreover, a minute error, when compared with the two glaring blunders of the Virginia Military Institute, for whom, it seems, both Euclid and Montucla have written in vain. According to their definition, the circumference of a circle 'is such, that all straight lines drawn from a certain point *within the figure*,' etc. How in the world could such a point be otherwise than 'within the figure?' Is there any such point without the figure? Is there, in other words, any point except the centre of the figure itself, which is equally distant from all the points of its circumference? Obviously and necessarily *there is not*. Hence this unnecessary statement — a certain point 'within the figure' — should have been omitted. It is an 'error of excess,' an excrescence. There are spots in the sun, but there should be none in geometry.

A circle is a plane figure contained by a line, all the points of which are equally distant from a certain point in the plane. This definition, it is believed, is free from all errors, whether of *defect* or of *excess*. The containing line is the circumference of the circle, and the 'certain point' is its centre. Is there any error in the above definition of a circle? We invite, we challenge criticism. We have adopted the definition of Eu-

clid, Playfair, and Todhunter, omitting only the unnecessary statement, that the 'certain point' called 'the centre of the circle' is 'within the figure.'

We might, if necessary, criticise other definitions of Professor Smith. But have we not already said enough to illustrate, as we proposed to do, his 'genius for blundering'? Many of his definitions are correct, being faithful copies from other geometers. But the moment he lets go his leading-strings he falls into serious error. In his copying, too, such is the confusion of his thoughts, that he sometimes commits the most ridiculous blunders. Thus, in attempting to give the definition of a *Corollary*, he says: '*A Corollary* is a remark on one or more preceding propositions, showing their connection, their utility, their restriction, or their extension.' This is faithfully copied from M. Blanchet; but then it is M. Blanchet's definition, not of a *Corollary*, but of a *Scholium*! In M. Blanchet's work, the definitions of a *Corollary*, and of a *Scholium*, stand next to one another; and hence, after copying the word *Corollary*, the author's eye evidently fell on the line below, and so he finished with the definition of a *Scholium*, without the least consciousness of the absurdity! And there the definition of 'A *Corollary*' stands to the present day, in the immortal work of Professor Smith, after all his revisions of the proof-sheets! Having finished the definition of 'A *Scholium*,' as the definition of 'A *Corollary*,' the former is not defined at all in his great, stereotyped work! A Chinese tailor, it is said, will copy a patch, or a grease spot, on any garment which is given to him as a pattern to work by. Professor Smith seems to have followed, with even more than Chinese scrupulosity, all the defects of M. Blanchet's work, for to the real spots, or blunders, in the original, he has added some imaginary ones of his own!

If a student of mathematics, in the lowest class of the University of Virginia, had committed such a blunder in the definition of 'a corollary,' we should certainly have marked him *zero*. Professor Smith, strange to say, has given no definition whatever of '*A Scholium*.' If he had defined this very important scientific term, he would, perhaps, have said, '*A Scho-*

lium is an obvious consequence of one or more propositions.' Enough of our author's definitions.

One or two of his demonstrations must suffice. In Book I we find the following: 'PROPOSITION VII. THEOREM. *In every triangle, any one side is less than the sum of the other two.*' Now, this is *not* a theorem; and it requires no demonstration, at least in the geometry of Legendre or Professor Smith. The sides of a triangle are *right lines*. Hence to say, as they do, that 'a right line is the shortest distance between two points,' is to say, that 'any one side of a triangle is smaller (or shorter) than the sum of the other two.' They first assert, in their definition, that the proposition is self-evident, or axiomatically true, and then they lay it down as a 'Theorem,' and gravely attempt its demonstration! Now, what did Professor Smith expect to accomplish by such a demonstration? Did he intend to demonstrate the axiom of Archimedes, or the self-evident definition of Legendre? We suspect, indeed, that he merely meant to copy the 'theorem,' which he had found in other authors, without any thought or logical design of any kind.

We find, it is true, this celebrated 'theorem' in the work of Euclid. But, then, there was some excuse for him. For Euclid, having defined a right line as one 'which lies only between its extreme points,' he did not assume, as self-evident, the very proposition which he afterward undertook to demonstrate. But there is no excuse for those who assert this proposition as self-evident in their definitions, and then undertake to demonstrate it in the body of their works. They change the definition of a right line, without appearing to think, for a moment, of the change which the new definition necessitates in the body of the science. Those who make geometries should attend to the logical coherency and concatenation of their thoughts.

But even Euclid's demonstration of the 'theorem' in question was laughed at by some of his contemporaries. 'Any ass,' it was said, 'can see that any one side of a triangle is shorter than the sum of the other two.' Why, then, attempt to demonstrate such a proposition? The reply of Euclid was not satis-

factory. Any eye can see it, said he, but demonstrations are addressed to the mind or reason, and not the eye. An evident evasion, or sophism, as it appears to us; for when it was said, that any one can see the truth of the proposition in question, without the aid of a demonstration, it was evidently meant that any one, however weak his intellect, can see it both with the eye of his mind or reason. Euclid might have replied, no wonder the proposition is so clear to your minds, since, as you say, 'any ass' can see it. But this would have been to substitute wit for wisdom, or to return laughter for laughter. It is certain, however, that those who assume that a right line is the shortest distance between two points, as a first principle or postulate, should not attempt to demonstrate the proposition, that 'one side of a triangle is shorter than the sum of the other two,' for this were to demonstrate *axioms* or *postulates*.

'Every regular polygon,' says Professor Smith, Book IV, Prop. II, '*may be inscribed in a circle, or may be circumscribed about it.*' This proposition is not true. There are, as every geometer knows, only certain regular polygons which can be inscribed in, or circumscribed about, a given circle. There are, on the other hand, a great many regular polygons which can neither be inscribed in, nor circumscribed about, a circle. We should like to see, for example, Professor Smith, or any other man, inscribe in a circle, or circumscribe about a circle, a regular polygon of eleven or thirteen sides. It would be something new under the sun.

Professor Smith does not even attempt to prove the theorem enunciated by him, *but only its converse!* This proposition — the one our author really deals with — is accurately enunciated by Davies. '*The circumference of a circle,*' says Dr. Davies, '*may be circumscribed about any regular polygon; a circle may also be inscribed in it.*' Professor Smith may say this, but he cannot say, *e converso*, '*Every regular polygon may be inscribed in, or circumscribed about, a circle.*' What! He cannot say this? Why, in fact, this is precisely what he does say. In saying this, however, he merely copies the blunder of M. Blanchet, and that, too, after it had been corrected

by Professor Davies, or by some of his critics. But this is a small thing for the Virginia Military Institute to do; it only fails to see the difference between a proposition and its converse.

But these are small oversights; and, besides, they are copied from M. Legendre. M. Blanchet copies them from Legendre, and Professor Smith from M. Blanchet. Pity they had not followed their master as scrupulously in all cases in which his demonstrations are sound: for there are, as we shall presently see, false demonstrations in M. Blanchet, and, consequently, in Professor Smith, which are not to be found in the more logical work of Legendre.

But all the particular errors and blunders of Professor Smith, however manifold and amazing, are insignificant when compared with the originality of his genius in laying the foundations of a new method in geometry. On the foundations thus laid by him rest all the theorems relating to the circle and the three round bodies, embracing many of the most important and beautiful portions of the whole science. How indispensable, then, that these foundations should be secure. We want adamant here, as clear as it is hard, and not hay, wood, or stubble. We need, too, for such a work, a master-builder, and not a bungling apprentice. Let us look, then, at the workman and his work.

The problem at which our author labors may be truly called 'the problem of ages.' The ancient geometers, starting with the principle of superposition, were enabled to compare triangles, to ascertain their properties, and the measure of their surfaces. From triangles they proceeded to the investigation of polygons, which may be easily divided into triangles; and thence to the consideration of solids bounded by rectilinear figures, such as prisms, pyramids, and polyedrons. Having ascertained the properties of these figures or magnitudes, they were unable to proceed further without the aid of some more powerful method than the application of the principle of superposition. At this point the great difficulty began.

The problem to be solved was, How to pass from the properties of regular polygons to those of the *circle*—from the

properties of regular polyedrons to those of the *cylinder*, the *cone*, and the *sphere*. In order to solve this problem, or to effect this passage, the ancients, as every one knows, invented and used the tedious and operose method of the *reductio ad absurdum*. Now, it has been the problem of ages to supplant this very tedious and circuitous method by one more direct, simple, and easy. It was for this purpose, as Newton himself tells us in *The Principia*, that he invented 'the method of limits,' a method which has been less studied and less understood than its great importance demands. Indeed, some geometers, more free and easy in their logic than a Newton could well be, have taken a short cut to the conclusions to which his method legitimately and rigorously leads. Proceeding on the assumption, that the *circle* is a regular polygon, with an infinite number of sides, they have just transferred the demonstrated properties of the last of these figures to the first. In like manner, assuming that the *cylinder*, the *cone*, and the *sphere*, are regular polyedrons, with an infinite number of faces, they pass at once and immediately from what has been proved respecting regular polyedrons to the properties of 'the three round bodies.' This short and easy cut is the one adopted by Professor Davies in his *Legendre*. We have already shown, in the pages of this *Review* for April, 1867, that it is loose, illogical, and false.

In another place, this free and easy method is thus noticed by us: 'It is an error to consider a circle as a polygon. It is certainly a false step to ussume this identity, in any case, as a first principle or postulate, since so many mathematicians of the highest rank regard it as evidently untrue. Thus Carnot, for example, says: "It is absolutely impossible that a circle can ever be considered as a true polygon, whatever may be the number of its sides." The same position is, with equal emphasis, assumed by Berkeley, Maclaurin, Euler, D'Alembert, Lagrange, and a host of other eminent mathematicians, as might be easily shown, if necessary, by an articulate reference to their writings. But, indeed, no authority is necessary either to establish or to refute a first principle or postulate in geometry. This is simply a demand upon our reason, which

is only supported by assertion, and put forth either to be affirmed or denied. If the reason of mathematicians does not affirm it, then is there an end of its existence as a first principle or postulate. As no effort is made to prove it, so none need be made to refute it. For no one has a right to be heard in geometry who makes the science start from unknown or contradicted principles, especially from such principles as have, in all ages, been rejected by the mathematicians of the very highest order. Yet has there been, in modern times, an eager multitude of geometers who rush in where a Euclid and an Archimedes feared to tread.'

It was to castigate this temerity and rashness in Dr. Davies that our review of his *Legendre* was written and published in April, 1867. After reading that review, Professor Smith wrote a letter to the *Editor*, thanking him for the article, and saying, it is exactly 'into my hand,' for 'I am preparing a geometry for the press.' His geometry has since been published, and is now before us. He is not, it is true, in the same category with Professor Davies, but, unless we are greatly mistaken, he is in a worse one. After learning our opinion of *his* book, however, he informed us that 'some persons' did not altogether like our review of Davies' *Legendre*; they thought it 'a little too hypercritical.' He will, no doubt, think our review of *his Legendre entirely too hypercritical*, and refuse to thank us for it, however it may play 'into the hand' of some other writer of a geometry. We are concerned, however, not with what he, or 'some persons,' may be pleased to think, but only with the interests of science.

The foundation on which Professor Smith erects the geometry of the *circle*, the *cylinder*, the *cone*, and the *sphere*, is used by Dr. Ray, for the same purpose, in his *Plane and Solid Geometry*. Hence, in criticizing that work, we reviewed Professor Smith's *Legendre* before it was published; at least in so far as this foundation principle is concerned. That criticism, which certainly had no personal reference to Professor Smith, we shall here lay before our readers, inasmuch as it applies to Professor Smith's *Legendre* as well as to Dr. Ray's *Geometry*.

In relation to the great problem which both of these writers attempt to solve, and which both solve in the same way, it is said: 'Few men can be induced to bestow on the subject that calm, patient, and protracted attention which Father Malebranche so beautifully calls "a natural prayer for light." Hence, those who reject the solutions most in vogue usually precipitate themselves and their followers into some false solution of their own. Satisfied with this, although this fails to satisfy others, their investigations are at an end. Henceforth they feel no need of any foreign aid, and consequently the great thinkers of the past and of the present are alike neglected. Their own little taper is the sun of their philosophy. Hence, in their prayerless devotion to truth, all they do is, for the most part, only to add one falsehood more to the empire of darkness. I could easily produce a hundred striking illustrations of the truth of this remark. But with the notice of one, in one of the books before me, I shall conclude this first chapter of my reflections.

'It is expressly denied, in the book referred to, that a polygon can ever be made to coincide with a circle. An inscribed polygon, says the author, "can be made to approach as nearly as we please to equality with the circle, *but can never entirely reach it.*"¹ Accordingly he defines the limit of a variable in general to be that constant magnitude which the variable can be made to approach as nearly as we please, but which "it can never quite reach." Now this is perfectly true. For, as the author says, the polygon, so long as it continues a polygon, can never coincide with a circle, since the one is bounded "by a broken line" and the other by "a curve." Here, then, there is a chasm between the inscribed variable polygon and its limit, the circle. How shall this chasm be passed? How shall we, in other words, proceed from a knowledge of the properties of the polygon to those of the circle? The author bridges over, or rather leaps, this chasm by means of a newly-invented axiom. "Whatever is true up to the limit," says he, "is true at the limit."² That is to say, whatever is true of

1 Ray's Plane and Solid Geometry, Art. 475.

2 Art. 198.

the polygon in all its stages, is true of the circle. Now, is not this simply to assume the very thing to be established, or to beg the question? We want to know what is true of the circle, and we are merely told that whatever is always true of the polygon is also true of the circle! In this the author not only appears to beg the question, but also to contradict himself. For, according to his own showing, the polygon is always, or in all its stages, bounded by a broken line, and "the circumference of a circle is not a broken line."¹ Again, he says that the polygon is *always* less than the circumscribed circle, and this certainly cannot be said of the circle itself. He appears to be equally unfortunate in other assertions. Thus, he says, "whatever is true of every broken line having its vertices in a curve, is true of that curve also."² Now, the broken line has "vertices" or angular points in the curve; has the circumference of a circle any vertices in it? Again, "whatever is true of any secant passing through any point of a curve is true of the tangent at that point."³ Now, every secant cuts the circumference in two points, and, as the author demonstrates, the tangent only touches it in one point. Thus, his assumption, or universal proposition, is so far from being an axiom that it evidently appears not to be true.

'The author does not claim the credit of having discovered or invented this new axiom. "In explaining the doctrine of limits," says he, "the axiom stated by Dr. Whewell is given in the words of that eminent scholar."⁴ Now, Dr. Whewell certainly had no use for any such axiom. For, according to his view, the variable magnitude not only approaches as nearly as we please, but actually reaches its limit. Thus, says he, "a line or figure *ultimately coincides* with the line or figure which is its limit."⁵ Now, most assuredly, if the inscribed polygon ultimately coincides with the circle, then no new axiom is necessary to convince us that whatever is always true of the polygon is also true of the circle. For this is only

1 Art. 477.

2 Art. 201.

3 Art. 201.

4 Preface.

5. Doctrine of Limits, Book II, Art. 4.

to say that whatever is true of the variable polygon in all its forms is true of it in its last form—a truism which may surely be seen without the aid of any newly-invented axiom. According to his view, indeed, there was no chasm to be bridged over or spanned, and, consequently, there was no need of any very great labor to bridge it over or span it. His axiom was, at best, only a means devised for the purpose of passing over nothing, which might have been done just as well by standing still and doing nothing. The truth is, however, that although he said the two figures would ultimately “coincide,” leaving no chasm between them to be crossed, he felt that there would be one, and hence the new axiom for the purpose of bridging it over. But the man who can adopt such a solution of the difficulty, and, by the authority of his name, induce others to follow his example, only interposes an obstacle to the progress of true light and knowledge. Indeed, the attempts of Dr. Whewell to solve the enigmas of the calculus are, as we shall have occasion to see, singularly awkward and unfortunate, showing that the depth and accuracy of his knowledge are not always as wonderful as its vast extent and variety.’¹

When we first looked into the book of Professor Smith, we supposed that he had derived his false foundation principle from Dr. Whewell or Dr. Ray. It is not expressed in exactly the same words, but it is evidently the same principle. ‘Every property,’ says he, ‘which belongs to the perimeter or area of an inscribed polygon, whatever the number of its sides, is equally applicable to the length [the circumference] and the area of the circle.’ Or, in the words of Whewell, ‘Whatever is true of the varying polygon up to the limit, is true of the limit;’ that is, of the circle. Now, this principle, though not true in itself, is so managed as to lead to truth; for it is only applied to establish those properties of the circle which are already known to the geometer. But to lay it down as an axiom, or self-evident principle, in geometry, is to substitute shadow for substance, and to impose on the mind of the student assertion for demonstration. Surely a process so loose, so illogical, and so utterly vicious, bears small resemblance to ‘the

¹ Philosophy of Mathematics, p. 37.

demonstrations left by the Greek geometers, or to any other 'models of accuracy, clearness, and elegance.'¹

The above foundation principle is, as we have already seen, laid down by Whewell and Ray as an axiom, first principle, or postulate of the science. Not so by M. Blanchet and his disciple, Mr. Smith. This 'axiom' is first proved by them, and then illustrated by means of an example. The proof is a series of blundering assumptions, and the example is the very quintessence of inanity. Let us examine, and see if this is not strictly true.

'It *results* from what has just been said (from the preceding proof), that every property which belongs to the perimeter and area of an inscribed polygon, whatever be the number of its sides, is equally applicable to the length and area of the circle. Thus, for example, the perimeter of every inscribed polygon being less than the perimeter of a polygon enveloping the circumference, we may conclude that the length of the circumference is itself less than the perimeter of every circumscribing polygon.'

Now, is not this example a marvellous exhibition of logic? It first takes for granted, without proof, that the inscribed polygon is always less than the circumscribed polygon, and then, by virtue of the great principle in question, it actually infers that the circle is always less than the circumscribed polygon! Might it not just as well have inverted this process? That is, might it not just as well have taken it for granted that the circumscribed polygon is always greater than the inscribed polygon, and then inferred that the circle is always greater than the same inscribed polygon? In either case, the logic starts from a self-evident proposition, and thence infers another proposition equally self-evident! Whether it goes the one way or the other, it is equally satisfactory, and equally ridiculous! In either case, it proceeds, not from the known to the unknown, but from the known to the known; and only proves, that it is one thing to be a *geometer*, and quite another to be a *thinker*. Such trifling is a disgrace to the science. Better, ten thousand times better, to adhere to the rigorous

1 Professor Smith's Preface, p. 1.

reductio ad absurdum of Legendre, than resort to such 'ameliorations' of his celebrated work.¹

So much for the example or illustration. Now for the proof. This consists of two pages, and is arranged under the head of 'Definitions.' These definitions are numbered I, II, III, IV, V, and VI, which constitute the proof of the great foundation principle of our author. Of these several 'definitions,' as they are called, in their order—

I. 'A *variable* quantity is a quantity which takes successively different states of magnitude.'

II. 'A *limit* is a fixed magnitude toward which a variable quantity may approach indefinitely near without reaching it.'

Now, the above definition sets before us 'a *variable* quantity,' not in the technical or scientific sense of the term, but only in its loose and popular signification. 'A *variable* quantity,' in the geometrical sense of the term, 'takes successively different states of magnitude,' according to some regular and fixed law, and never in an irregular or lawless manner. Hence Duhamel, who was a *thinker* as well as a *geometer*, thus defines a variable and its limit: 'The limit of a variable—When one magnitude takes successively values which approach more and more that of a constant magnitude, and *in such a manner* that its difference from this last may become less than any assigned magnitude of the same species, we say that the first (*i. e.*, the *variable*) approaches indefinitely the second, and that the second is its *limit*.'² Thus, in geometry, 'a *variable* quantity,' properly so-called, never approaches its limit in a lawless manner, but always under such a law, or condition, that it may finally differ from its limit by less than 'any assigned magnitude of the same species.'

The definition of 'a variable,' as given by our authors, entirely overlooks the *nature* and the *use* of such quantities in the science of geometry. They are *auxiliary* quantities, introduced for the purpose of doing that indirectly which cannot

1 'Cette nouvelle édition des *Elements de Géométrie* de Legendre,' says M. Blanchet, 'a été revue avec le plus grand soin, et je crois y avoir introduit de nombreuses *ameliorations*.'

2 *Eléments de Calcul Infinitésimal*, Vol. I, Book I, p. 9.

be directly done; and they would be utterly useless if they failed to change in such a manner, or according to such a law, as to 'approach indefinitely' the constant magnitudes, or limits, whose properties or values are the objects of search. Hence, the definition which merely states, that 'a variable quantity is a quantity which takes successively different states of magnitude,' gives the student no insight whatever either into the *nature* or the *use* of such auxiliary quantities. They form no part of the sublime edifice of mathematical science; they are merely its scaffolding.

III. 'Arithmetic and geometry present numerous examples of *variable* quantities and of limits.

'Thus, the angle of a regular polygon of m sides has for its value

$$\frac{2m - 4}{m} = 2 \text{ right angles} - \frac{4}{m}.$$

But, if we suppose the number of sides of the polygon to be indefinitely increased to infinity,¹ the value of the angle will continually increase; and as m may become so large that the fraction $\frac{4}{m}$ may be smaller than any assignable quantity, we conclude that the successive values of the *variable* angle of the polygon will have for a *limit* two right angles.

'Again, if we take c , the middle point of the right line AB , then c' the middle of cB , and so on, the lines Ac , Ac' , Ac'' , etc., etc., will have for a *limit* AB . And we might indefinitely multiply such examples.'

But though he should, from arithmetic and geometry, multiply such examples to infinity, he would never find one, in either of these sciences, in which the *variable* did not change its value according to a certain law, or condition, so as to approach indefinitely near the magnitude of its *limit*. Otherwise it would be of no use whatever as an auxiliary quantity.

IV. 'It is evident that if the factors a , b , c , of a product have for *limits* A , B , C , the product $a \times b \times c$ will have for a *limit* $A \times B \times C$.'

¹ This is a mistranslation; there is no such absurd expression in the original as 'indefinitely increased to infinity.' 'Croisse jusqu' à l'infini,' is the original.

This is *not* evident. When, indeed, we read this *assertion*, as well as other parts of the author's *proof*, we did not suppose it possible that he could have followed M. Blanchet. Hence, in order to satisfy our minds, we sent to New York for the original, and, to our very great surprise, we found that it was the blunder of M. Blanchet, which our learned author had most faithfully copied. We were the more surprised at this because M. Blanchet lives, not in the mountains of Virginia, but in the mathematical land of a Legendre and a Duhamel. But, no matter where he lives, or who he is, we cannot accept his *ipse dixit* as proof, or his assertion as a demonstration of one of the most important and fundamental theories in geometry. This very theorem, indeed, which M. Blanchet would have us to receive on his bare authority, is carefully and clearly demonstrated by Duhamel.¹ Better adhere, we repeat, to the rigorous proof of Legendre, by the *reductio ad absurdum*, than to indulge in such loose 'ameliorations' of his geometry. M. Blanchet prepared his work, as he tells us, 'because a long experience in teaching had proved to him that a course too extended *fatigued the memory and the intelligence of the pupils*.' But if 'the memory and the intelligence' of the pupils of 'the preparatory school of Sainte-Barbe,' or of 'the Virginia Military Institute,' be so dreadfully oppressed by the demonstrations of Legendre that they must have such 'ameliorations,' we would advise them to turn their attention to softer studies — such as the last novel and idle declamation; they are not likely to derive much benefit from the study of mathematics, or any other exact science.

V. 'Let A B C D be a polygon inscribed in a circumference: the perimeter of this polygon is less than the length of the circumference, for each side is less than the corresponding arc. Let us take, on the arcs A B, B C, C D, etc., points of division F, G, H, E, etc., and draw the chords A F, F B, B G, etc., we shall have inscribed a second polygon, with a perimeter greater than the perimeter of the first polygon. If, now, we take new intermediate points of division, we shall have a third polygon, whose perimeter will still be greater than the preceding; and so on, indefinitely.

1 *Eléments de Calcul Infinitésimal*, Vol. I, Book I, Chap. I.

‘The perimeter of these successive polygons will continually approach the length of the circumference, and we may admit, as a self-evident proposition, that if the number of sides of the polygon be sufficiently great, the difference between the length of the circumference and the perimeter of the polygon will be less than any assignable quantity; or, in other words, *the length of the circumference will be the limit toward which the perimeter of an inscribed polygon tends, as the number of its sides is indefinitely increased.*

‘We remark, also, that the areas of the successive polygons, which are all less than the area of the circle, differ from it less and less; and, if we admit that this difference may become less than any assignable quantity, we may conclude that *the area of the circle is the limit of the area of an inscribed polygon, the number of whose sides increases indefinitely.*’

Now, this is every word and every syllable of their proof. From this proof, as it is called, they draw the grand conclusion: ‘It results, evidently, from what has just been said, that every property which belongs to the perimeter or area of an inscribed polygon, whatever be the number of its sides, is equally applicable to the length and the area of the circle.’ Thus is the problem of ages solved; the foundation is laid, and it only remains to erect thereon the edifice of geometry.

It is taken for granted, in the foregoing proof or demonstration, that the difference between the inscribed polygon, or *variable*, and the circumscribed circle, or *limit*, ‘will be less than any assignable quantity.’ Yet this fundamental proposition is, in spite of his passion for short and easy cuts to the conclusions of the science, demonstrated by Davies in his *Legendre*. (See Book V. Proposition X. Theorem.) Our authors, however, do not attempt to demonstrate it; they merely take it for granted, ‘as a self-evident proposition.’ If any one denies this proposition, then, instead of attempting to prove it, they merely ‘*admit*’ it, and pass on! Surely, if this be science at all, it is science made very easy. No matter who denies the fundamental principle on which they build, they quietly ‘*admit*’ it, and so pass on! Glorious conquests! Admirable victories! How wonderfully, too, are they adapted

to the weak 'memories' and the soft 'intelligence' of effeminate pupils! Grand architects of science! How greatly, indeed, will your pupils be indebted to you for such delightful 'ameliorations' of the rugged paths of science! It is that for which the great Egyptian monarch sighed—a royal road to geometry—and a royal road, too, made easy to the faith of the feeblest mind.

The above proof is, moreover, as remarkable for what it omits as for what it contains. The most important principle used by them, and used in the demonstration of the very first *Theorem* which follows their proof, is not even *enunciated* by them, much less proved. It is this: '*If two variables are constantly equal and tend each toward a limit, these two limits are necessarily equal.*' This principle, though demonstrated by Duhamel,¹ is used by our author without even having been enunciated by them. It is only surreptitiously taken for granted by them.

Again, the more general and important principle, that '*if two variables are always in the same ratio, as they tend toward their limits, then will these limits be in the same ratio,*'² finds no place in their demonstrations or proof. If they had demonstrated this theorem, or only the one last above stated, then might they have made the scientific foundation, at which they have labored, as clear as crystal and as strong as adamant. But, as it is, their work is disfigured as much by what they have omitted as by what they have inserted. We shall now quit their foundation of hay, wood, and stubble.

We owe it, however, not to conclude this paper without noticing two of the demonstrations of M. Blanchet and Professor Smith. '*In the same circle,*' says Professor S., '*or in equal circles, the angles at the centre are to each other as the arcs intercepted between their sides.*' (Book II. Proposition XVIII.—Theorem.) There is, as every geometer knows, no difficulty in the demonstration of this theorem, 'when the two arcs have

1 In his *Éléments de Calcul Infinitésimal*. Vol. I, Book I, Chap. I.

2 This principle is not demonstrated by Duhamel, nor, so far as we know, by any other author, except by the author of *The Philosophy of Mathematics*, already referred to. See Chap. II, p. 48.

a common measure,' or are commensurable. But when the two arcs 'are incommensurable,' then the difficulty begins. Legendre grapples with this difficulty, and demonstrates the 'theorem' by means of the *reductio ad absurdum*. M. Blanchet pursues a more easy course.

'If the arcs A B and D E,' says he, 'are incommensurable, divide the arc D E into 3 equal parts, for example, and suppose the arc A B to contain 4 of these parts, with a remainder K B smaller than one of these parts. The ratio of A B to D E is greater than $\frac{4}{3}$ and less than $\frac{5}{3}$.



'If, now, we join the centres E F with the points of division of the arcs, we see that the angle D F E is divided into three equal parts, and the angle A C B contains four of these parts, with a remainder K C B smaller than one of them; the ratio of the angles A C B, D F E is also, therefore, comprised between $\frac{4}{3}$ and $\frac{5}{3}$. Hence, the ratios A C B to D F E, and of A B to D E are both comprehended between $\frac{4}{3}$ and $\frac{5}{3}$. Now, dividing the arc into 10, 100, 1000 . . . parts we could prove, in like manner, that these ratios are embraced between two consecutive numbers of tenths, hundredths, etc.; therefore, these ratios are equal, for we have just proved that they are comprehended between numbers whose difference may be made as small as we please.'

Now, this demonstration proceeds on the principle, that if two *variable* ratios can be made to differ by a quantity 'as small as we please,' then are they ultimately equal. This principle is not without high authority in its favor. It is thus stated in the *Principia* of Newton: '*Quantities, and the ratios of quantities, that during any finite time constantly approach each other, and before the end of that time approach nearer than any given difference, are ultimately equal.*'¹ M. Blanchet is, then, in good company. But mark the difference of procedure between him and Sir Isaac Newton in regard to this principle. He takes it for granted and surreptitiously

1 Principia, Book I, Section I, Lemma I.

builds on it, as if it were a self-evident truth; Sir Isaac Newton, on the contrary, thinks it necessary to demonstrate this principle. Accordingly, he gives a demonstration of it in the *Principia*; for, although all the elements of Euclid appeared to his mind as little more than so many self-evident propositions, he did not feel at liberty to assume as self-evident the principle in question. In like manner, Dr. Whewell, in his work on the *Doctrine of Limits*,¹ has taken the pains to demonstrate the same principle or proposition. Now, what right, we ask, has M. Blanchet, or Professor Smith, to require the mere tyro in geometry to receive, as an unquestionably clear and self-evident principle, the proposition which a Newton had found it necessary to demonstrate? Was it because the pupils of Sainte Barbe, or the Virginia Military Institute, had better geometrical heads than that of Newton, or because it was easier for them to walk by faith, than by science, in the paths of geometry?

Again, the principle in question, though demonstrated by Newton, has never been adopted by all of his most enlightened followers. Many of them, on the contrary, have contended that if it is to be understood *in the sense in which M. Blanchet understands and uses his principle*, it is not true. What right, then, has he to assume as a self-evident proposition, for the benefit of boys, a principle which has been repudiated as false by so many of the most illustrious veterans of the science? Whether the principle be true or false, it is certain that it has been the subject of much doubt, darkness, and controversy among geometricians. Hence it is a gross offence against the demands of the science, and against its spirit, to assume such a principle or proposition as a self-evident postulate. It has, in fact, cost us more labor to comprehend this one principle, or to ascertain its true nature, than to master the whole *Elements* of Euclid. How, then, can we sit still and see it imposed upon the too easy faith of pupils as a first principle of geometry?

For more than a century and a half this principle, and its supposed demonstrations, have stood in the first Lemma of the

¹ Doctrine of Limits, Book II.

Principia, like the Sphinx riddle, at the very entrance of the greatest production of the human mind. Shall this enigma, then, this dark riddle of geometry, be now placed at the portals of the science as too plain to admit of doubt or difficulty, and that, too, without even an attempt at its demonstration? Even if it were true, it is entitled to no such position. But it is not true. Its fallacy has been demonstrated.¹ The error of Newton's 'demonstration' has been detected and exposed in a light too clear to admit of a reply. The opposite principle, moreover, which has been substituted in its place, and clearly demonstrated, answers the purpose for which it was invented better than it does itself. The solution of Newton's Sphinx riddle, and the discovery of the truth which has taken its place, are due to no particular author, but to 'Time, which,' in the language of Bacon, 'is the great author of authors, and of all authority.'

This is no disparagement to Newton. Having extended 'the empire of man, which is founded in the sciences,'² more than any 'king of thinkers' that has ever lived, it is not strange that he should have fallen into one error, or left one spot on the sun of his unparalleled glory. But it is a shame, it is a disgrace, that, after all that has been written on the subject, this spot should be set up as a self-evident element in the clearest of all the sciences. M. Blanchet, indeed, to say nothing of Professor Smith, does not seem to be aware that the principle on which he so confidently builds has ever been the subject of controversy, or that it ever exists in the immortal work of Sir Isaac Newton. He just assumes its truth, and, without one word of explanation, proceeds to build on it as on a rock of adamant!

There are geometers, it must be admitted, who know as little about the mechanism of the infinitesimal method as a horse does about the mechanism of the heavens. They use that method as an instrument, just as some engineers use the steam engine, without the least knowledge of its mechanism, or *rationale*, or philosophy. Professor Smith is one of these; and yet, we speak from personal knowledge and experience,

1 See *Philosophy of Mathematics*, Chap. VII.

2 Lord Bacon.

he assumes to be 'a teacher of teachers,' and 'the grand Mogul of Southern Science.' He is profoundly ignorant of the structure, or the *rationale*, of the first differential co-efficient of the Calculus; and yet has he waked all the mountains of Virginia, and all its hollows, too, with his crowings about his superior knowledge of that branch of the mathematics. He is not likely, however, to suffer much from a sense of his deficiency, for what he lacks in science he makes up in self-complacency.

The second important theorem, which we have promised to notice, is in these words of Professor Smith's translation of M. Blanchet: '*Two rectangular parallelopipeds $A G$, $A L$, having the same base, $A B C D$, are to each other as their altitudes $A E$, $A I$.*' (Book VI. Prop. IX.) If the altitudes have a common measure, the demonstration is easy. But suppose the altitudes are incommensurable, what then? Why, then, M. Legendre has recourse to the *reductio ad absurdum* of the Greek geometers. Not so M. Blanchet and his Virginia disciple. 'If,' say they, 'the altitudes $A E$ and $A I$ were incommensurable, we might prove, by the method explained in Book II, Prop. XVIII, that their ratio would always be the same as that of the parallelopipeds.' As the proof is the same, so is our reply the same. It is built on a false foundation.

We approve the object at which M. Blanchet aims. The object, namely, to simplify the demonstrations of Legendre, by substituting the first principles of the infinitesimal method for the *reductio ad absurdum* of the ancients. But the man who undertakes to introduce these first principles into the elements of geometry *should first take the pains to understand them*. Otherwise his attempt will be, like M. Blanchet's, a budget of blunders. Many modern geometers have, indeed, aimed at the same object as M. Blanchet, but among all the disastrous failures in this 'high endeavor,' we know of none more signal or more disgraceful than that of the 'directeur de l'école préparatoire de Sainte-Barbe.' There were, in his own country, many writers and *thinkers* who might have been of great service to him, such as D'Alembert, Carnot, and Duhamel. But if he has ever read the works of these men

at all, it must have been with that easy, careless, and negligent inattention, which did not leave the least trace of their great and luminous ideas on his memory. He may have a genius for geometry; he certainly has no genius for its philosophy. He may, for aught we know, be admirably qualified to manipulate the *formulæ* of the Calculus, or to work it as a practical engine; he certainly does not comprehend the very first principles of its internal mechanism or *rationale*. Hence he was not the man to introduce 'modifications,' or 'ameliorations,' into the admirable work of Legendre. He has, indeed, excluded the *reductio ad absurdum* from that work, and thereby relieved 'the memory and the intelligence' of his pupils from the demands of that tedious and operose method; but he has only substituted *bosh* in its place. We are sorry, sincerely and profoundly sorry, that the students of the Virginia Military Institute are doomed to use such stuff, instead of science, in the cultivation, training, and development of their minds.

We have long delayed the duty of reviewing the performance of Professor Smith. When, more than five years ago, it was handed to us by the publishers for notice, we informed them that we could not possibly notice it favorably. We afterward gave the same information to Professor Smith himself, when he called to see us, and introduced the subject of our opinion of his book. We assured him, however, at the same time, that we should be in no hurry to publish a criticism of his Blanchet. We also added that, in a little work then passing through the press,¹ we had criticised the principle of his book in advance; that if, after examining the little work referred to, he should consider us in the right, he might have ample time to correct quietly, and without notice, what we conceived to be the fallacies of his geometry; but if, on the contrary, he should consider our views incorrect, or if, on any ground, he should conclude to retain his text-book *as it is*, it would then be time enough to notice it. We have now waited five long years, and more, for the revision, but waited in vain. In the meantime, his work had been almost entirely banished from our minds, by the pressure of other duties; but, recently,

1 The Philosophy of Mathematics.

the presentation of another work on geometry, by a Northern author, and nearly as faulty as itself, has forcibly recalled it to our recollection, and reminded us of our duty as reviewers. Science is not sectional, and, as duty begins at home, so we determined to bestow our first service on the Virginia Military Institute.

We intended to devote only a short notice to the errors of Professor Smith. But when, upon examination, we discovered that they had been sanctioned by M. Blanchet, we deemed them worthy of a more extended review. Hence the present article. This has been called for, as it seems to us, by the nature and the consequences of those errors. In the first place, the fundamental principle on which M. Blanchet builds the doctrine of the *circle*, the *cylinder*, the *cone*, and the *sphere*, strikes a fatal blow at the foundation of the whole Differential Calculus. It is, in the second place, clearly and demonstrably false.

I. *It aims a fatal blow at the whole foundation of the Differential Calculus.* For, if two variable quantities are ultimately equal, because, according to the law of change to which they are subjected, they may be made to approach each other as nearly as we please, or to differ from each other by less than any assigned quantity of the same species, then is the whole foundation of the Differential Calculus utterly swept away. This may be rendered perfectly obvious. For, according to the definition of all geometers, all indefinitely small quantities, or 'infinitesimals,' have zero for their *limit*. Hence, as they may be made to approach as nearly as we please to zero, so may they be made to approach as nearly as we please to each other. Are they, therefore, always *ultimately equal*? If so, then are their 'ultimate ratios' always, or in all cases, equal to the same constant quantity I. How, then, in the name of common sense, or reason, can their 'ultimate ratios' be made to yield that infinite variety of values, which constitute the very basis of the Differential Calculus? They can yield only I. Hence, if the principle of M. Blanchet be true, the Differential Calculus is utterly without a foundation. It is merely the 'baseless fabric of a vision.'

II. But the principle of M. Blanchet is '*clearly and demonstrably false.*' Its fallacy is demonstrated, by means of geometry, in the little work already referred to.¹ It is there demonstrated *geometrically* that '*the limit of the ratio of two indefinitely small quantities may be either infinity or zero*' (p. 225), or any quantity between those two extremes. The same thing may be just as easily demonstrated by means of one of the very simplest processes of algebra:

Let i , for example, stand for an indefinitely small *variable*, or '*infinitesimal*,' whose *limit* is zero. But if i is indefinitely small, i^2 is much smaller. Hence, we have in $\frac{i^2}{i}$ or in $\frac{i}{i^2}$ the ratio of two indefinitely small quantities.

But $\frac{i^2}{i} = \frac{i}{1}$, whose limit is evidently 0. On the other hand, $\frac{i}{i^2} = \frac{1}{i}$, whose limit is ∞ (infinity). Thus, the ratio of two indefinitely small quantities, which may be made to approach as near as we please to zero, or to differ from each other by less than any assigned quantity, may vary from 0 to ∞ (from zero to infinity). (E. E. D.)

Yet, in spite of this easy and obvious demonstration, or else in ignorance of it, M. Blanchet builds on the principle, that if two quantities may be made to approach each other as nearly as we please, or to differ in value by less than any assigned quantity, they are ultimately '*equal*;' so that their '*ultimate ratio*,' or the ratio of their ultimate values, *must be equal to the constant quantity I*.

We repeat, in conclusion, that we approve of the design or object of M. Blanchet, but not of the bungling manner in which that design has been executed. There have been many other geometers—Davies, Hockley, Ray, Whewell, Todhunter, and a host of others—who have aimed at the same object with M. Blanchet. But, as we have elsewhere shown,² without success. We do not despair, however, of seeing this object

1 See *Philosophy of Mathematics*, Chap. VIII, pp. 223, 224, 225.

2 *Philosophy of Mathematics*, Chap. I.

most clearly, fully, and perfectly accomplished. For, after reviewing the attempts of the above-named geometers, we have not been afraid to say: 'But if we reject the notion, that the inscribed regular polygon ever becomes equal to the circle, or coincides with it, what shall we do? If we deny that they ever coincide, how shall we bridge over the chasm between them, so as to pass from a knowledge of right-lined figures and volumes to that of curves and curved surfaces? Shall we, in order to bridge over this chasm, fall back on the *reductio ad absurdum* of the ancients? or can we find a more short and easy passage without the sacrifice of a perfect logical rigor in the transit? This is the question. This is the very first problem which is, and always has been, presented to the cultivators of the infinitesimal method. Is there, then, after the lapse and the labor of so many ages, no satisfactory solution of this primary problem? It is certain that none has yet been found which has become general among mathematicians. I believe that such a solution has been given, and that it only requires to be made known [and clearly demonstrated] in order to be universally received, and become a possession forever — *αχτῆμαξὸσάει* more precious than even the gift of Thucydides.'

ART. V.—1. *Armageddon, or a Warning Voice from the last Battle-field of Nations.* By Beale. London. 1837-8. 3 vols., 8vo.

2. *Louis Napoleon, the Destined Monarch of the World and personal Antichrist*; foreshown in prophecy to confirm a seven years' covenant with the Jews about or soon after 1864-5, and (after the resurrection and translation of the Wise Virgins has taken place, two years and from four to six weeks after the covenant,) subsequently to become completely supreme over England and most of America, and fiercely to persecute Christians during the latter half of the seven years, until he finally perishes at the descent of Christ at the battle of Armageddon, about or soon after 1872-3, etc., etc., etc. 13th thousand. By the Rev. M. Baxter, late Missionary of the Episcopal Church. Philadelphia. 1866.

3. *Yesterday, To-day, and Forever.* By the Rev. Edward Bickersteth. New York: Robert Carter & Brother. 1870.

Our world has not yet perished, although both public and private sins might indicate that the harvest was ready for the reaper. *Quosque tandem?* How long, O Lord, how long? Our earthly habitation still wheels along its appointed orbit, observing the successions of the seasons, and serenely repeating the alternations of night and day, while its multitudinous populations follow each other like the waves of the sea, or start into light and disappear with perplexing rapidity and brief duration, like the sparks of a scroll in the last moments of conflagration. Earthquakes convulse, floods desolate, and droughts famish different regions, but the round globe still rolls on, and men of profound science speculate more on the exhaustion of the central luminary that enlightens, warms, and vivifies the system to which we belong, and the consequent freezing out of the terrestrial tubes, than on the final inflammation. But all men are not men of profound science, and all cannot indulge with equal placidity in these cool calculations. The opening year is the last of the two assigned by the Rev. Mr. Baxter for the consummation. During the past summer, some uneasiness, but more curiosity, was excited by the hoax ascribed to Professor Plantamour, which announced that on the 12th August a portentous comet would rush through the heavens, smite our planet, and reduce it to dust and ashes. The 12th August came and went away without producing a jar. The comet did not appear, though shooting stars were numerous during the month, and a few nights before the day of expected doom there was a remarkable aurora in the West — a broad, bright, white streak in the heavens, like an enormous comet's tail. Such apprehensions, such announcements, come and go with each generation, and almost with each year; and if the delusion is mortal, it is as vivacious as the heads of the hydra.

The writings named at the head of our article, and a host of others of similar character and tendency, demonstrate this fact. They are significant in themselves, and more significant

as representations of the modes in which weak minds and credulous temperaments are harassed and unsettled by vague prognostications in regard to matters impenetrably shrouded from human ken. Mr. Bickersteth's poem, *Yesterday, To-day, and Forever*, is a chiliastic argument, displaying much of the obscurity of the Sibylline oracles, and no greater credibility. It is a curious cross between Pollock and Milton, possessing more characteristics of the former than of the latter. It contains some gorgeous passages of rhetorical verse, and, in the First Book, some tender sentiments and pathetic descriptions gracefully expressed. If it avoids the censure of the *Paradise Lost* by the black-letter lawyer, that it proves nothing, it is more censurable by undertaking a poetical demonstration and failing in its aim, while destroying all poetry by entertaining such an aim. An argument for the approach of the Millennium in learned and elegant verse is a strange resuscitation of the Sibyls for the waning of the nineteenth century.

The Rev. Mr. Baxter falls into no such poetical heresy. His language is the plainest and baldest of prose. He proceeds patiently and unmethodically in the track of interpretation customary with those who would wrest the prophecies to the establishment of their own hallucinations in regard to the final day. Even the designation of the late Emperor of the French as preëminently the man of sin and Antichrist, who was to usurp supreme dominion and blasphemous ascendancy, was in consonance with the usual routine before Hagenau, and Sedan, and Metz had dissipated this particular delusion. We have copied the greater part of Mr. Baxter's long and breathless rubric; we have patiently and painfully reproduced the larger half of it—*verbatim, literatim et punctuatim*—notwithstanding its vermicular articulations, its awkward convolutions, and its ungrammatical expressions, because the title-page contains the marrow and essence of the work, and presents in one confused view the entire doctrine which we intend to question, and strenuously to disclaim. The frontispiece is not merely emblematic of the book, but may be appropriately considered the book. The curtain is the picture. The portico is the temple. Behind the façade are only chaotic

piles of literary and exegetical lumber, and the grotesque idols to which clouds of unsavory incense are offered in the gloomy *penetralia*. The most remarkable part of the title-page we are unfortunately unable to represent. In the midst of the loose and disjointed members of that verbose annunciation, which proclaims like a show-bill the curiosities exhibited within, is inserted a portrait of 'the perfect monster that the world ne'er saw'—a strange, ungainly, seven-headed beast, the seventh head being designed for that of the Emperor Napoleon III. This is the symbol of the book, and it is a fitting prefiguration of its contents. Though unable to revive it in our transcript of the title, we commemorate it here, because the observations contemplated by us will be devoted to the scope, not to the arguments, of this portentous volume. It is not Mr. Baxter, nor Mr. Baxter's exposition of his thesis, with which we are now concerned. All interest of that kind has been dispelled. The book, which had reached 13,000 copies in 1866, is as dead as Jubal's glees and melodies. It was effectually slain by the untimely dethronement of the French Emperor more than two years ago. If we exhume the body, it is simply that we need a subject for dissection, to illustrate matters of permanent and solemn importance.

We are desirous of protesting against the rash interpretation of prophecy, against the morbid application of the enigmatical utterances of Scripture to current events, and against the bewildering and unauthorized curiosity which seeks to discern the prognostics of a coming millennium, or of the imminent end of the world, by a violent collation of vague passages of inspiration with the doubtful aspects of the present times, and with the inapprehensible contingencies of the approaching future. For these purposes, the text is all that we require; we have no need of the commentary. We eschew polemics. With the theological difficulties of such interpretations we have no concern. We have no design of meddling with religious controversy. We are attracted by the secular aspect of the question. It is indifferent to us how the task may have been executed, what line of discussion has been adopted, what arguments have been adduced, what special conclusions

have been drawn, when our object is to show that the undertaking of any such task is a perilous delusion. We are under no necessity of examining, refuting, or accepting the deductions of Mr. Baxter and his fellows, or the sonorous periods of Mr. Bickersteth's flowing verse, since our batteries are directed, not against any particular exposition, but against the futile fallacy of any exposition at all. Hence, the bare titles of these, and the like works, are sufficient for our thesis. The extent and the details of Mr. Baxter's title offer a target unnecessarily broad. It is not the merit or demerit of the production as a literary or exegetical performance that affects us, but its subject and intention. It is not the work of Mr. Baxter, or the ultramundane epic of Mr. Bickersteth, that provokes our antagonism, but the whole class of works which they represent and popularize. We commence and conclude with *Deus avertat omen*.

It might, indeed, be deemed discourteous to these authors if we availed ourselves of their lucubrations as a text without bestowing any further notice upon them. Mr. Bickersteth will rarely be apt for our uses, but we will take Mr. Baxter's labors into diligent, but not minute, consideration, whenever the course of the disquisition permits us to do so. Such notices must be brief and hurried, because they touch topics not intimately connected with our main subject. We have as much personal interest in Gog and Magog as in Louis Napoleon, whether on or off the Imperial throne, or in the Grand Lama. These gentry are not of our acquaintance. We are not of their circle. But we do protest against the announcement by any human authority, whether through loose conjectural denunciation, or through elaborate manipulation of prophecy, that any living man is Antichrist and the Man of Sin; that the completion of all things, the end of the world, the Millennium, or the second advent of Christ, is imminent, or will occur at any predesignated time. It is the pretension to such foreknowledge that we resist. In this protest, and in this resistance, we are sustained by the sober judgment, the regulated piety, and the intuitive wisdom of the best intelligences of the Christian Church in all ages. Such unfathom-

able mysteries present the gravest instances for the application of the sage maxim of Minucius Felix: *Confessæ imperitiæ summa prudentia est.*

The end of the world, with its dread accompaniments, as prefigured in Revelation, is a tremendous subject of contemplation, which may be easily desecrated by vulgar, ignorant, or rash treatment. The temptation is almost irresistible to speculate with unauthorized curiosity on the mode and the circumstances of the fearful consummation. We once yielded to the seduction. We can appreciate its force. We have experienced its dangers, we have recognized its illusions, and we compassionate its victims. The incomparable grandeur of the unimaginable scene, the inconceivable terrors of the last agony of the temporal creation, the indistinct intimations of the triumph and the anguish, the splendor and the gloom of the supreme moment, with the portentous and eternal interest which each of us has in the awful catastrophe, ought at all times to engage our most anxious meditation. But when these incomprehensible topics have once secured habitual and earnest regard, they are apt to fascinate and inflame the imagination and to overwhelm all sobriety of reflection. Theologians and preachers, from Solomon to Mr. Baxter, have exhorted us continually to think upon our latter end — upon the *quatuor novissima hominis*. ‘Meditate upon the last four things,’ says the most eloquent of sacred orators: ‘1, the certainty of death; 2, the terrors of the Day of Judgment; 3, the joys of heaven; 4, the pains of hell, and the eternity of both.’ These were Scriptural precepts which the Fathers and the schoolmen urged upon thoughtless men before Jeremy Taylor, and which the clergy and the expositors of all denominations have repeated ever since, and should continue to repeat. But all are unanimous in declaring that ‘neither can any reason or discourse be able to penetrate into the judgments of God.’ Nevertheless, we are drawn by a powerful attraction to such forbidden inquiries. We greedily devour the fruit of the Tree of Knowledge, and ‘know not eating death.’ We are not content to be assured that the end must come, and to prepare for that end, whenever it may come, by the strict performance

of prescribed duties, and by constant observance of explicit commands. We desire to discover how and when the end will come, with what antecedents, with what premonitions, with what attendant circumstances. We catch at every glimpse of supposed intelligence which seems capable of illuminating the painful darkness. Our eternal destiny is involved; our temporal existence and this round globe, yea, all which inherit it, are menaced. We can scarce endure the suspense, or refrain from inquiring under what conditions, and with what attendant phenomena, shall these things be. We are unsatisfied with the mysterious, shadowy, and impalpable intimations of the sacred oracles. We would translate these dark and figurative expressions into the plain prose of literal assurance. The ominous wail continuously reverberates in our ears:

Dies iræ, dies illa,
Solvat sæclum in favilla,
Teste David cum Sibylla.

Quantus tremor est futurus,
Quando Juxta est venturus,
Cuncta stricte discussurus!

We can scarcely repress the solicitude to ascertain by presumptuous conjectures the period appointed for the arrival of that dread day, 'when the heavens shall vanish away like smoke, and the earth shall wax old like a garment'; 'when all the host of heaven shall be dissolved, and the heavens shall be rolled together as a scroll; and their host shall fall down as the leaf falleth off from the vine, and as a falling fig from the fig tree'; 'when the sun shall be darkened, and the moon shall not give her light, and the stars shall fall from heaven, and the powers of the heavens shall be shaken'; 'in the which the heavens shall pass away with a great noise, and the elements shall melt with fervent heat, the earth also, and the works that are therein, shall be burned up'; 'wherein the heavens being on fire shall be dissolved, and the heavens shall flee away, and there shall be no place for them'; 'when the dead, small and great, *shall* stand before God, and his books *are* opened'; 'and the sea *shall give* up the dead which *are* in it; and death and hell *shall deliver* up the dead which *are* in them;

and they *are* judged every man according to their works.' Nor are our impatient curiosity and alarmed fascination likely to be restrained by the startling reflection, that some conclusions of contemporaneous science confirm the anticipation of the literal accomplishment of these declarations by the physical forces of the universe.

The inconceivable scenes shadowed forth in the sacred text, with their tremendous prognostications, fasten themselves upon the mind, occupy it, and unfold themselves in it, till we forget, neglect, or, like Mr. Baxter, explain away, this positive declaration, that 'the day of the Lord cometh like a thief in the night.' 'Ye know not what hour your Lord doth come,' says St. Matthew; and similarly St. Paul, 'Yourselves know perfectly that the day of the Lord so cometh as a thief in the night'; and the warning is repeated in the penultimate chapter of Revelation, 'Behold, I come as a thief.'

The biblical representations of the last day are apt to excite a craving avidity to anticipate its approach. The language of the prophetic Scriptures affords just enough to provoke inquiry, and to defy solution. As the desire diffuses itself, and simultaneously occupies the thoughts of multitudes, the common sensibility irritates, expands, and inflames individual anxieties, heightens the private curiosity into an epidemic fever, and finally bursts out in the conviction, that if the exact moment of doom must remain unknown until its arrival, a near guess may be made at the appointed date of its occurrence. Thence the step is an easy one to the conviction that the hour is at hand, and that the approaching years, or months, will usher in the prologue to the Last Judgment with the deposition of the Pope, the liberation of the Devil, the enthronement of Antichrist, the Second Advent, the first resurrection, the millennium, and the conflagration of the world. It is easy to find proof, 'clear as Holy Writ,' to establish a foregone conclusion. It is only a grave application of the logic of Dogberry — an exemplification of the French aphorism, '*ce n'est que le premier pas qui coûte.*' When the immediate expectation of the end is once confidently entertained, the pliant riddles of prophecy are readily distorted into an apparent confirmation of the pre-

vious belief. When the validity of such expositions of prophecy is admitted, the hallucinations of terror, or the overweening fantasies of credulity, beguile the imagination and unsettle the reason. The facility with which opinions of this kind are propagated will surprise no one who has observed that doctrines are disseminated among the multitude, including even the learned vulgar, rather by the contagion of sentiment than by any exercise of reflection.

As the temptation to such conclusions is perpetual, and the sensibility to such impressions oscillates from the hot to the cold state, and back again to the hot, like the changes of an ague, so its paroxysms have recurred at intervals since the first promulgation of Christianity; and, even in heathen times, since the early ages of nascent civilization: '*Teste David cum Sibylla.*' It stimulated the curious interpretation of the oracles of Paganism, as it has stimulated the unauthorized exposition of the oracles of Scripture. It may be detected busily at work in the legends of India, of Egypt, of Assyria, of Persia, of Greece, of Rome, and of Scandinavia. It is a chronic malady, a secular plague. It may be recognized in the earlier Sibylline oracles, as authenticated by Virgil's *Bucolic*, M. Alexandre's contrary opinion notwithstanding. It was introduced into the spurious Apocalypse of St. Paul; it was rebuked in St. Paul's Second Epistle to the Thessalonians. It is clearly exhibited in the Apocryphal Book of Esdras. It is prominent in many of the heresies of the primitive Church. Error has a long and illustrious lineage. In every century, and in almost every generation, the same delusion has excited popular apprehensions and anticipations. It has been a source of periodic dread, like the approach of comets, and has passed away unrealized, as the blazing portent has vanished innocuously into the thin ether of limitless space. The alarm has, however, been frequently recalled, and fitfully heightened, amid the tremendous and astonishing events, which have disturbed the order of humanity, shaken the foundations of society, and perplexed the minds of men since the outbreak of the first French Revolution. This proximate cause of the exacerbation of the disease is recognized by Mr. Baxter, though it is, of

course, contemplated by him in a very different light from that in which we view it, and is regarded by him as irrefragable evidence of the soundness of his exposition of the menaces of the Apocalypse. How often has the same fancy prevailed before, with stronger apparent justification in the concomitant character of the times! The longest period assigned by him for the duration of his secular system of the world closes with the present year; his principal vaticination has been proved utterly fallacious by events already accomplished; new horrors and new causes of dismay, equalling or surpassing all that preceded them, have appalled the world since his book was written; and the old delusion continues to recur from like impulses, despite all earlier or recent exposures.

When any aberration of thought becomes chronic among a considerable portion of the population, and manifests its virulence by seizing upon those classes of society which are ordinarily sheltered from such attacks, though least adapted to resist them, the time has certainly arrived when an earnest effort should be made to provide an antidote for the poison, and to oppose the progress of the disease. During the last ten years the evil has been growing upon us, though from time to time it has received a momentary check. *Crescit et serpit quotidie malum.* It incessantly returns, like 'Monsieur Tonson come again.' It threatens general hallucination, and that laxity of thought and consequent dissoluteness which come from hallucination. Its propagation is facilitated by an air of self-complacent piety, of biblical learning, of extraordinary devotion, and of special illumination. Its pretensions secure the favor of unreflecting religionists, and divert scrutiny. At the same time they provoke or intimate a suspicion of hostility to religion on the part of those who condemn the abuses which are cloaked with the garb of religion. Mr. Baxter, like many of his fraternity, recognizes the opposition to be encountered by his views, and is not chary in launching his anathemas against those who refuse them, and in imputing perverse motives to those who repudiate them. It is easy to return such complimentary thunderbolts to the hand that hurled them, but we shall follow no such unseemly example.

It was observed long ago: '*Nihil in speciem fallacius quam prava religio.*' But specious fallacies impose upon innocent and feeble minds, possess them, and produce impenetrable assurance of the rectitude of their convictions, and an obstinate presumption of the impiety of those who would unveil the plague-spots of morbid devotees. It is perilous to be single in sanity in a community of Bedlamites. There is a probability of being misapprehended and misrepresented, there is a certainty of being outvoted and silenced by the clamorous unanimity of the tribe of opponents. All difference is palpable guilt; all dissent an aggravation of unpardonable obduracy. These considerations, however, only increase the urgency of presenting a resolute resistance to such insidious dangers. The task, hazardous as it may be, we have undertaken, with Mr. Baxter's *Armageddon* for our chief text. As that mystic name has been selected by him, and so many other expositors of the same kidney, for a war cry—in that frenzy of catching the vulgar ear by a quaint nomenclature which characterizes our days, as it did in the times of the Fifth-Monarchy men—we will go up thither to do battle with him, and with the shadowy cloud of witnesses and allies who attend him there. In order to secure some defensive armor at the commencement of the combat, and to obtain some impartiality of treatment, we would mention that among the early articles of the Church to which Mr. Baxter is attached, was one specially repudiating such theories of the Millennium as he promulgates; and that the same course, in regard to this 'Jewish dotage'—this 'Cerinthian heresy'—has been uniformly observed by the more intelligent and sober portion of the Christian Church, from St. Jerome and his precursors to the most recent theologians and ecclesiastical historians. We are informed by Origen, that *Chiliasm*, in its diverse forms, was confined to 'those of the simpler sort,' and to such as, 'refusing the labor of intelligence, followed the superficial mode of literal interpretation.'

Before hazarding another remark on this thorny question, we must be permitted to repeat, that we design no theological controversy with Mr. Baxter, or with any of his colleagues or

disciples. We have no theory to bring forward, no exposition to propound, no particular interpretation of the obscure and ambiguous language of Scripture to espouse or to refute. It would be small game to ventilate the errors, incongruities, inconsequences, extravagances, absurdities, and blunders of 'Armageddon' and the *Armageddonistæ*. It is a serious duty to dispel the dangers to be apprehended from the whole cohort of these inspired dreamers. Our antagonism admits of no diminution because the chief prognostications of Mr. Baxter and company have been refuted by the events which have already taken place; because the position maintained by us is, that there can be no assured foreknowledge of the times and seasons of the final consummation; that there can be authentic explanation in advance of the mysterious denunciations of the end of the world — no uninspired interpretation of the secret counsels of the Almighty before their fulfillment; and that any attempt of the sort is an arrogant assumption of Divine intelligence, calculated to exert the most mischievous, demoralizing, and irreligious influence upon society.

Our aim is to exhibit the peril to both the intellect and the morals of society, and to the interests of all religion, which are to be apprehended from such profane publications (we use the word profane in its original and legitimate sense), whether executed with consummate talent or with transparent folly. The whole design we conceive to be wrong, and the effect to be pernicious. We would, therefore, appeal to common sense, to past experience, and to the authority of the sober-minded, to prevent the evil, if they cannot prevent the recurrence, of such corroding productions. We are very far from ascribing to Mr. Baxter, or to the rest of 'the sons of the prophets,' any recognition of the disastrous tendencies of their speculations.

'The Battle of Armageddon,' which Mr. Baxter apparently adopts as a secondary title, and which has been frequently employed as the principal designation of similar reveries, is supposed to signify the great conflict of material arms which is to form the closing struggle between the hosts of Christ and of Antichrist, and to usher in the Millennium. The conflict itself

is the merest conjecture. The conjecture rests upon the arbitrary agglutination and identification of widely-separated texts. The only mention made of Armageddon in the Book of Revelation represents it, in the highly metaphorical and allegorical language of Scripture, as 'a place called in the Hebrew tongue, Armageddon, where the kings of the earth and of the whole world are to be gathered together to the battle of that great day of God Almighty.'

All is vague and floating here. The ground is a quicksand under our feet. Types and symbols rarely admit of precise application. They furnish no data for chronology. Human ingenuity is at fault in the attempt to translate rhetorical figures and designed ambiguities into distinct facts awaiting their accomplishment.¹ In the present instance, there is a further augmentation of uncertainty. The significance of the term, Armageddon, is wholly unsettled. The allusion intended by it is dubious. If, as is most probable, its metaphorical import is derived from the scene of great and disastrous slaughter, where Josiah and his army were overthrown by Pharaoh Necho (A. C. 609), and where most of the great battles of the Holy Land have been fought, it refers to the Valley of Megiddo and the Plain of Jezreel. The Plain of Esdraelon, or Jezreel, affords the only champaign country in Palestine suitable for the evolutions of large armies, and was therefore peculiarly fitted to indicate, figuratively, to the fancy of a Jew the field of any tremendous engagement. Near the city of Megiddo, and the mountains of Megiddo, or Armageddon, Josiah, King of Judah, was routed with immense slaughter, and with the loss of his own life. The memory of that mournful day was preserved in a proverbial expression: 'As the mourning of Hadadrimmon in the Valley of Megiddo.' Hence Armageddon became a perfectly appropriate term to symbolize overwhelming defeat, terrific carnage, and extravagance of woe. Hence, too, it would convey in the Apocalyptic narrative a singularly vivid impres-

1 'Nobis quidem oleum et operam perdere videntur, qui hujus modi oracula ad certos eventus referre student, aut poetica ornamenta ad factorum fidem explorant.' Rosenmüller. *Schol. Ezek. xxviii.* 26.

sion of the utter ruin finally to overtake the impenitent and the enemies of God. But no term could be less adapted to indicate any definite place, or any precise event.

No valid objection could be taken to the adoption of the term *Armageddon*, if it were only used as a startling designation. The taste and discretion of its employment might be questioned, but these offences could be overlooked. But, in the hands of Mr. Baxter and his *confrères*, there is a bold assumption, a confident *petitio principii*, involved in the application of the name. It is implied, and, we may say, insinuated, that there will be an actual carnal battle at Armageddon. Other assumptions, fallacies, or inferences, are accepted with little examination or hesitation, after the facility of belief has been secured. It is not to be expected that those will long strain at a gnat who have just swallowed the camel without a gulp, and who have been as unconscious of that large deglutition as was Gargantua of the six pilgrims of St. Sebastian's, whom he chewed in a lettuce-leaf, and afterward picked out of a hollow tooth. It is to be remembered, moreover, that one of these pilgrims recalled six passages of the Psalms, that foretold the misfortune of himself and his companions.

The characteristic conclusion is thus begged from the commencement, and the same disregard of the logical validity of the premises is exhibited throughout. The imagination of the Millenium, and of the prevenient occurrences, rests principally upon the Book of Revelation, dark and enigmatical as is the language of that book. But the premonitory signs of the last agony are confirmed, or multiplied, by the equally obscure expressions of Daniel and other prophets.

There are no two books in the Bible whose authenticity has been more questioned, and whose meaning is more unintelligible, than the Book of Daniel and the Revelation of St. John. The utter ambiguity of their import renders them wholly unsuitable as a basis for any vaticinations in regard to the concealed plans of Providence. They are evidently allegorical, and highly metaphorical. The exuberance of Oriental fancy colors their language, and presides over nearly all their utterances. We have no guide but themselves, and analogous

modes of expression elsewhere, to determine the signification of either the allegories or the metaphors. Are we authorized to receive metaphor for plain fact, and allegory for authentic description? How shall we ascertain the true interpretation of a prophecy where multifarious interpretations are possible, and have been proposed? By what criterion shall we recognize the correct one? Is there any criterion previous to the accomplishment of the prediction? Is not any selection among various expositions arbitrary and unwarrantable? If a prophecy admits of two plausible expositions (*i. e.*, before it is fulfilled), neither can be accepted. We are ignorant of its meaning, because we have no conclusive means of regulating our choice. ‘Who shall decide?’

What the Millennium will be we know not. When it will occur, and what will be its manifestations, we cannot tell, until it has occurred; perhaps not till it has been completed. The same kind of inspiration is required for the interpretation of prophecy as was needed for its utterance.¹ The illumination of Daniel was as necessary for the explanation of the handwriting on the wall as for his predictions in regard to the Macedonian and Roman Empires. After the accomplishment of the prophecy, it may or may not be understood. The Jews still deny the advent of the Messiah. We cannot tell with certainty whether the predictions of the Apocalypse, of Daniel, and of other prophets, have or have not been accomplished already. We may be living in the midst of the Millennium without knowing it. The battle of Armageddon may have been fought by Constantine at the Milvian Bridge, by Charles Martel at Tours, or by John Sobieski under the walls of Vienna. We do not hold any such tenets. We have no convictions on these impalpable subjects. Such dogmas would be diametrically opposed to our whole thesis.

It is especially hazardous to undertake to disclose the future by the aid of the mysterious oracles of the Apocalypse. The text is mutilated and extremely dubious. We cannot be assured of even the words and phrases with which we determine the day of doom. Can we venture on such a slippery

1 Procopius. *De Bello Gothico*. Lib. I, c. xxiv.; Lib. IV, c. xxi.

and insecure basis to predict the ultimate designs of the Creator in regard to the execution of his purposes? In the perplexities to which we are reduced, the only escape for us is in the humble recognition that our eyes are not yet unsealed to the comprehension of these mysteries. This humility is strenuously enforced by a consideration of the centuries of recurrent error and repeated falsification, which have illustrated the experiments at a solution.

In the days of the Apostles and the Evangelists, the end of the world was anticipated within the term of their natural lives.

Ultima Cumœi venit jam carminis ætas.

This expectation seemed to be authorized, not merely by the Pagan Sybils, but apparently by the language of Christ himself. 'Verily I say unto you, that this generation shall not pass away till all these things be done.' He had, indeed, said unto them: 'Ye know not what hour your Lord doth come; and, 'Of that day and hour knoweth no man; no, not the angels of heaven, but my Father only.' But the whole tenor of his discourses seemed to point to an early consummation of all prophecy. His language and his meaning may have been misapprehended, as we are assured was the case in regard to the hypothetical prolongation of the life of St. John until the second Advent. If the words of the Savior could be misconceived and misapplied by his followers while he was yet present with them, can we trust the expositions of Mr. Baxter, Mr. Bickersteth, Mr. Beale, or Mr. Baldwin? *Quid pertransivit, scio; quid autem futurum est, ignoro.* The past we may know, the future we cannot know. However the error may have arisen, the conviction that the world would be destroyed during the current generation was almost universal among the early Christians, even while they had the advantage of Apostolic instruction. It is reprehended by St. Paul in his second Epistle to the Thessalonians; and Dr. Macknight, in his preface to this Epistle, has shown that the great delusion respecting the speedy dissolution of the world was entertained by none of the writers of the New Testament. If, indeed, they had fallen into such an error, how could we

believe in their inspiration, or place reliance in the truthfulness of their prophecies?

St. John at length slept with the other Apostles, Evangelists, and martyrs, but the expectation remained. Its accomplishment had been postponed, but was daily and hourly looked for. Such was the belief when the legions of Titus thundered at the walls of Jerusalem; such was the general conviction when Apollonius of Tyana announced himself as a god, and proclaimed at Ephesus the assassination of the tyrant Domitian at Rome; such was the faith of the early post-Apostolic ages. They were all beguiled. The credulity was so diffused that it is noticed by Pliny in his celebrated letter to the Emperor Trajan on the treatment of the Christians. Were all the primitive fathers and saints thus deluded, and shall we credit Mr. Baxter *et hoc genus omne*? Can we ascribe to him an infallible illumination which was so conspicuously denied to them?

Any one who has acquired the slightest tincture of the Patristic, Ecclesiastical, Apochryphal, and Oracular literature of the first Christian centuries, must have been impressed with the general doctrine of the imminent completion of all prophecy. The enunciation of the belief is continual, either in explicit statement or in dark vaticinations. We pass over Cerinthus, Papias, Irenæus, the Montanists under the Antonines, and other avowed Chiliasts. The opinion languished in Greece, and died out by the fourth century, as we ascertain from Epiphanius; but in Tertullian, in the spurious Sybilline Oracles, and in Lactantius, we find, not merely the proclamation of this solemn faith in the near approach of the final consummation, but a style of conception and expression curiously analogous to the characteristics of the Book of Revelation. A still more startling parallelism, in language, type, and spirit, is supplied by the Fourth Book of Esdras, which evidently belongs to this period. This, and the Sybilline Oracles in their existing form, are apparently Jewish and Christian forgeries of the second and third centuries. The ten ages of the Sybil were completed, or nearly so, when Nero ascribed the burning of Rome to the Christians, and commenced those per-

secutions which seemed to announce the reign of Antichrist. Even this was an extension of the previous conception of the Sybilline cycle, for it is apparent from Virgil's Eclogue, addressed to Pollio, that the elder Sybil recognized the completion of the destined ages of the world in the reign of Augustus, or a little before Christ's first Advent. Mr. Baxter introduces chronological calculations and tabular statements to show that the six thousand years — the six symbolical days of the millenary week, corresponding with the six metaphorical days of the creation — must be fulfilled about the year 1872. He is wholly incognizant of the fact that similar calculations had been refuted by St. Augustine; and he is ignorant alike of the conflicting estimates of the Sybil, and of the utter uncertainty of all chronological speculations relative to the date of the creation of the world and the commencement of human history. For the date of the latter event, there is a discrepancy of nearly sixteen thousand years between the late Chevalier Bursen and Archbishop Usher; for the date of the former, there is a discrepancy of nearly five hundred millions of years between the geologists and the same ecclesiastical authority. Mr. Baxter, notwithstanding the second-hand *erudition* which cites Irenæus and Hippolytus, Julius Africanus, Origen, etc., is unaware of the fact that, about the commencement of the fourth century, Lactantius, relying upon like unreliable data, anticipated the early close of the grand cycle of time, and did, at least, prognosticate a great Oriental apostacy as its inevitable termination. A similar prediction had been previously introduced into the Fourth Book of Esdras. Both were, in a singular manner, complimented by the appearance of Mahomet, the rise of Mahometanism, and the establishment of an anti-Christian domination throughout the Saracenic Empire. Nearly a century before Lactantius, Tertullian had expressed a somewhat analogous anticipation. In accordance with a long prevailing sentiment, he measured the duration of the world by the duration of the Roman Empire, then apparently crumbling at its base:

When falls the Coliseum, Rome shall fall!
And when Rome falls — the world.

When the Roman Empire was tottering to its fall under the assaults of the Northern hordes, and when Rome was actually captured by Alaric and his Visigoths, Salvian and St. Augustin wrote most profound and significant treatises to show the error of this expectation, and to prove that the looked for ruin was not required by the moral government or by the revealed purposes of Providence. St. Augustin discusses all these millenarian calculations and speculations. He mentions that Christianity was, in Pagan expectation, doomed to expire within 365 years of its commencement, but that neither Christianity nor the world had expired, though both the time and the oracle had done so more than half a century before the date of his writing. The observations of the great Latin Father are so striking and pertinent that we cite them in the note, directing the special attention of the Louis-Napoleonists to them.¹ The lesson of St. Paul is as applicable now as when it was given. 'Now, we beseech you brethren, by the coming of our Lord Jesus Christ, and by our gathering together unto him, That ye be not soon shaken in mind, or be troubled, neither by spirit, nor by word, nor by letter as from us, as that the day of Christ is at hand. Let no man deceive you.'

Allegorical, symbolical, and metaphorical language admits of infinite applications and a continual change of interpretations. It is always, therefore, indistinct and unsuited to furnish data for definite reasoning and precise calculations. It may be remarked now that a wrong construction had been placed on the passages of the Gospels, the Epistles, and the Apocalypse, to which we have referred. Doubtless this was

1 . . . Frustra igitur annos qui huic sæculo remanent, computare ac definire conamur, cum hoc scire non esse nostrum ex ore Veritatis audiamus. Quos tamen alii quadringentos, alii quingentos, alii etiam mille ab ascensione Domini usque ad ejus ultimum adventum compleri posse dixerunt. Quemadmodum quisque eorum astruat opinionem suam, longum est demonstrare, et non necessarium. Conjecturis quippotuntur humanis, non ab eis certuni de Scripturæ canonicæ auctoritati profertur. Omnium vere de hac re calculantium digitos resolvit, et quiescere jubet, ille qui dicit; '*Non est vestrum scire tempora quæ Pater in sera posuit potestate.*' . . .

Hæc atque hujusmodi multa colligerem, si nondum annus ipse transisset, quem divinatio ficta promisit, et decepta vanitas credidit. . . .

S. Augustin. *De Civ. Dei.* XVIII., LII.—LIII.

the case, but the prophets did not themselves think so; and what is to be thought of soothsayers and interpreters of dreams, who must constantly repeat *Peccavi*, and renew their failures with unabated assurance? It may be plausibly alleged that the generation designed by their words meant the civilization and system of the Roman Empire, which lasted much longer than they had contemplated. It may be asserted that these have not yet passed away, and that they are only now dying out under the dissolving influence of the great American Republic, and of the mighty empires of Russia and Prussia. This may well be, but it does not prove the credibility of the expounders who preached the imminent close of the generation. We are disposed to accept the general doctrine, forcibly expressed by Rigaltius in his commentary on Tertullian's *Apologeticus*: *jam olmi disjecti Romanorum imperii rudera calcamus* — we still tread on the wrecks of the Empire of Rome. We agree in the spirit, though not in the excesses, of Sir Francis Palgrave's declaration, that we are living under the Fourth Monarchy, or the surviving, though transmuted, Roman Empire. The evidence supplied by Bandouin, Du Bos, Savigny, Schuërou, Ozanam, Kemble, Palgrave, Spence, and more recent inquirers, compels us to acquiesce in this conclusion; but it does not induce us to fraternize with Mr. Baxter and his tribe, or to accept their dogmas in regard to Armageddon, the Second Advent, the Millennium — or Louis Napoleon.

If the Fathers of the Church were mistaken, can we now assume that the repetition of the inveterate fantasy possesses such validity as to demand our acceptance after this long experience of error? Is not the true lesson conveyed by this continual frustration of heated conjecture that which accompanied the most authoritative annunciation of the prophecy: 'the times and the seasons he has reserved to himself.' Is not this modesty and this submissive resignation further enforced upon us, if there is room for even the suspicion that all such prophecies were actually accomplished in the destruction of Jerusalem, the capture of Rome by Alaric, the fall of the Western Empire, or the rise of Mahometanism.' This opinion

has been maintained with great show of reason. It is substantially the view contemplated by the Sybilline oracles, and by the contemporaneous forgeries of Jews and Christians. It can be discerned as a Pagan tenet throughout the history of Zosimus, and may be suspected of coloring the narrative of Ammianus Marcellinus. It was the creed of Tertullian, of Lactantius, and of most of the Christians of the first four centuries. It endured till the taking of Rome by the Goths, when it submitted to the necessary modifications, as the dethronement of Louis Napoleon requires very considerable alterations in Mr. Baxter's exposition.

In the voluminous literature of the first four centuries of the Christian Church — in the secondary Gentile literature of that long and interesting period, whether Jewish, or Greek, or Latin; in the multifarious literary forgeries of those generations — the suppressed, burning hatred of the great conquering nation, which had subjugated and tyrannized over the world, manifests itself continually in prophetic denunciations of Rome, in philosophic anticipations of its overthrow, in the conviction, hopeful or apprehensive, that the fall of Rome would be the prelude to the destruction of the world.

Commencing with the introductory chapter of St. Paul's Epistle to the Romans, in which so frightful and graphic a delineation of Roman corruptions is given, and descending through nearly the whole series of un-Roman literature to the heresies that preceded the outburst of Islamism, this feeling, this application of prophecy, this anticipation, are habitually displayed.

The character of the times after the age of the Antonines, with ever-multiplying miseries and ever-deepening degradation, was calculated to confirm such impressions by appearing to accomplish foretold vengeance, and to correspond with the phenomena which, in the highly metaphorical language of Oriental exaltation, had been announced as the prognostics of the day of doom.

The portents on the earth and in the heavens, which are indicated as the accompaniment of the last days, attract the attention and 'harrow up the blood' of every reader of the

Scriptures. There was a startling appearance of the realization of these tremendous menaces in 'the signs and wonders in heaven,' and under the heaven, in the declining age of the Western Empire. We may look back from our present vantage ground over the whole domain of almost forgotten history, and note with admiration and surprise the multiplication of strange disorders, terrestrial and celestial, which attended the decay and grew with the progressive wretchedness and dissolution of Imperial Rome. The Sibylline oracles are full of these notions, uttered as prospective vaticinations. Such they may be, and they may have been borrowed from the language of the Hebrew prophets. They are more probably an adaptation of that language to events already passed, whose bitter consequences had been experienced. Whatever construction may be put upon the Sibylline remains and other oracular curiosities, we know from authentic sources that, during the period from Julius Cæsar to Augustulus, and thence onward to Herodius, there was an amazing frequency of comets, meteors, volcanic eruptions, earthquakes, inundations, storms, famines, pestilence, civil and foreign wars, barbarian inroads, and devastations. All woes seemed to be multiplied, magnified, accumulated, and deprived of any hope of mitigation or redress, except during the few intervals of repose.

But if any past period of history could justify, by its physical terrors and moral condition, the expectation of the immediate and literal consummation of prophetic woes, it was the age immediately preceding the career of Mahomet. The sudden apparition, moreover, of an Eastern Antichrist, with his fanatical swarms of sanguinary and predatory proselytes, might be deemed a confirmation of the exposition of the sacred and Sibylline oracles, propounded by Lactantius three centuries before, and announced, perhaps still earlier, in the Fourth Book of Esdras, as one of the incidents of the final agony.

All such expectations, interpretations, and confirmations were belied. Twelve centuries and more have elapsed since the Hegira, and still the same misleading marsh-fires dance before us. If the marvels which preceded and accompanied

Mahometanism; if the convulsions of nature and of nations which ushered it in; if the mighty apostacy and defection which signalized its rise; if the anti-Christian fury of Islamism, the ominous splendor of Mahomet's own course, and the proselyting conquests of the Saracens, did not realize the prophetic visions, what hope can now be entertained of the possibility of prognosticating the time, the mode, the circumstances and the agents of the final conclusion? All the myriad misapprehensions of the past raise their warning voices against the rash and ignorant renewal of the inveterate presumption and the reiterated deception.

To the attentive student of history the blunders and heresies of Chiliasts and expounders of prophecy are a caution against such hopeless explorations. To Mr. Baxter, and those of like kidney, they are not warnings, but stimulations. If previous calculations have all proved false, the field is open, and the new calculation must be true. They walk by the light of former delusion in the like path of delusion. Every former disappointment inflames their own confidence. Every previous blunder is an illumination to their feet, and an encouragement to repeat it. They follow the multitude — to go wrong. The fatal rock on which all their precursors have been wrecked is the load-star which directs their course. They misapprehend the lessons of continual failure. They will fix the stone of Sisyphus on the summit of the mountain; they will fill the bottomless tub of the Danaïds. It is a quaint but sad spectacle to observe with what a fatal hallucination dreamers, enthusiasts and credulous explorers of dark enigmas, suffer themselves to be deluded, and to become honest instruments for the propagation of delusion.

Reason, authority, and fact unite in demonstrating the absurdity, impropriety, and danger of such prognostications. But reason, authority, and fact do not prevent the periodic return of the hallucination. In the critical periods of human history; in the great agonies of the world; amid the terrors of war and anarchy; in times of discord, famine, and pestilence; in the crushing sorrows of oppressed communities; in the triumphs of vice and wrong; in the despair of virtue and

right; in the disturbances produced by the conflict of old and new opinions; in generations alarmed by convulsions on earth and in the heavens, when the seasons are deranged, and the forces of nature seem released from all control — when earthquakes and floods, volcanoes and tempests, inclement winters and distempered summers, decimate the population, or deny the means of sustenance — when the intellectual, moral, religious, political, and social condition of the world seems crumbling into ruin, and that ruin seems symbolized by a corresponding menace of ruin throughout the whole order of nature; then the old conviction, the oft-refuted delusion, revives and seizes with renovated force upon the disquieted imaginations of men. In such a concurrence of calamities — the more fatal because the less comprehensible by the pre-occupied minds of contemporaries — there are few who retain a perfect balance, and hold themselves aloof from the general contagion. Christianity should furnish a panoply against all bewildering terrors, and enable the Christian to regard unmoved the fall of empires and the crash of worlds. It does not certainly do this, because the infirmities of the flesh, and of both nervous and intellectual constitution, remain in despite of religious conviction; and the susceptibility of the spiritual organization is increased by the same discipline by which it is refined. In Christian times the balance of the mind is unsettled, not so much by the personal fear of dissolution, as by the awe of universal dissolution, or, rather, by the fear of such awe. At any rate, the anticipation of the end of the secular order of the world has produced more signal, more agitating, more contagious, and more frequent disturbances in Christian than in heathen communities.

It was not only in the centuries which witnessed the internal decay and weakness of the Roman Empire, or in those which preceded and attended the establishment of Mahometanism, that the expectation of a speedy close of the ages inflamed the minds of men. The apprehension of the Last Day was almost universal in the melancholy miseries of the tenth century, when all law and order appeared to have perished, all religion to be extinct among the highest ministers of religion — when Sara-

cens ravaged the southern coasts of Europe, Danes the northern, and Huns spread desolation to the Rhine and to the Seine, till checked near Augsburg by the victorious arms of Otto the Great. The belief of the near judgment, nourished by the consternation and hopelessness of these dismal years, has suggested trivial, contemptuous, or pathetic reflections to nearly all writers on mediæval history. To these alarms and impulses may be ascribed, in large measure, that increasing fervor of pilgrimages to the Holy Sepulchre of Jerusalem, which culminated in the long enthusiasm of the Crusades.

When the great invasion of the Moguls took place in the thirteenth century, trampling out the last remains of the Caliphate in the seats of its former splendor—crushing into Europe—spreading to Moscow, to the Oder, and to the Danube—submerging the Eastern and menacing the Western monarchies—Roger Bacon expressed the prevalent sentiment of the day, and announced that the Second Advent was at hand. The Abbot Joachim had hazarded a similar announcement about a century before. Roger Bacon even dealt, like Mr. Baxter, in prophetic chronology, and concluded that the six thousand years of the world's history, and the year of the mystical number 666 would be completed before many revolutions of the sun.¹ This computation preceded Mr. Baxter's by almost exactly six hundred years. It might well appear to be sanctioned by the fearful prodigies of the times. The deadly struggle between Papal and Imperial supremacy was at its height; the Emperor, Frederick II, had contemplated and had nearly achieved the restoration of the universal dominion of the Roman Cæsars; he was accused of proposing to inaugurate a new religion, with himself as its prophet and head; violence, corruption, furious passions, civil disorders, and anarchy, afflicted all countries; the impurities of the later Franciscan sectaries, and the impious reveries of *'the Everlasting Gospel,'* menaced

1 . . . 'Multi sapientes . . . revolyentes divinam sapientiam, et scientias sanctorum, et veritates historiarum, et prophetias non solum sacras sed salubras, ut Sibyllarum, Merlini, Aquitæ, Festouis, et multorum aliorum sapientum, æstimabant quod his temporibus instarent dies Antichristi.' Rog. Bacon, *Compend. Stud.*: Cap. I. Compare *Opus Majus*, p. 126, Ed. Ven. Matth: Parisiensis, ad ann: 1250.

the ruin of Christianity; while the irruption of the Tartars portended the overthrow of Christianity.

The line of the Hohenstauffen expired on the scaffold at Naples. The flood of Gog and Magog, which had been spread from Pekin almost to Vienna, by Genghis Kahn, and Batou, and Houlagon, and Kublai, subsided. The barbarians were absorbed into the ground which they had overrun, or shrank up into disconnected states. The tide of conquest and ravage receded from the Danube; even the Golden Horde in Muscovy disappeared in the process of time. The memory of the mighty danger is preserved only by the historian! The memory of the terror, and expected consummation, survives only in the investigations of the student. But the world still lives on.

In the middle of the seventeenth century the old and unextinguishable aberration was revived by the Fifth Monarchy men under the English Commonwealth. It was the characteristic of a set of fanatics, rather than a general delusion. Under the Restoration, the expectation of our Lord's speedy return in glory became more widely diffused, and inveigled more intelligent classes of the population. The admirer of Sir Mathew Hale will remember the striking manifestation of that pure judge of perfect self-possession, and the equally striking manifestation by the assembled crowd of the expectation of the Day of Judgment, when a portion of the building fell in which the Chief Justice was exercising his judicial functions. Another indication of the prevailing belief is supplied in the quaint language of Sir Thomas Browne:

'If the end of the world shall have the same foregoing signs as the period of empires, states, and dominions in it, that is, corruption of manners, inhuman degenerations, and deluge of iniquities, it may be doubted whether that final time be so far off, of whose day and hour there can be no prescience.' . . .

In the whirl and turmoil and amazing atrocities of the French Revolution, and during the brilliant victories of Bonaparte, and his menace of universal empire, swarms of prophetic interpreters arose to give assurance to a troubled, alarmed, but

skeptical generation, that he was Antichrist, and that the end of all things was near.

Two centuries and more have elapsed since the restoration of Charles II to the throne of the Stuarts, and the Stuart line has long been extinct; yet the world still stands, and has been advancing in wealth, prosperity, and multitudinous triumphs. The sun has not stood still in the heavens, the earth has not been arrested in its course, nor has the shadow again gone back on the dial of Ahaz. The stroke of doom has not sounded, though the ear was expectant of the sound two hundred years ago. More than half a century has elapsed since Napoleon breathed out his insatiable spirit on a lonely isle of the ocean. The predictions in regard to him and his times have all been falsified. His nephew succeeded, through marvellous contingencies and the wildest vicissitudes of fortune, to the imperial throne. He succeeded also to a worse eminence in the cabalistic volumes of the prophetic dreamers, and was specially devoted to everlasting condemnation by Mr. Baxter and his charitable companions. Louis Napoleon has been dethroned and is drawing out his dull, dreary, and disappointed life in exile at Claremont, where his predecessor, Louis Philippe, before him chewed the bitter cud of vanished hopes and ambitions.

It is fortunate for the class of writers represented by Mr. Baxter that their oracles are forgotten as soon as they are falsified. The whole vast series of the literature of prophetic exposition is rapidly ignored. Wave follows wave, and breaks upon the back of its precursor, and then sinks into the kindly ocean of oblivion. It is unfortunate for the tranquillity of the world that such books are not remembered, to be warning voices against the repetition of the ever renascent fantasy.

In this review of former opinion, the attention has been confined to a few only of the more flagrant instances of millenarian expectation. The intervals between the paroxysms adduced are besprinkled copiously with similar manifestations, of greater or less intensity, of wider or narrower prevalence. The notorious William Whiston assigned the year 1716 for the commencement of the millennial period. Pierre Rambert

and the Du Tartres excited much commotion in South Carolina about 1724 by the like denunciation. Paul Felgenhaver, in his *Chronologie, on Efficacité des Années du Monde*, 1620, predicted that the world would end in 1765. Other cases are specified by those curious in such investigations. 'Herodotus foretold that the world would last 10,800 years. Dion, that it would endure 13,984 years; Cassander, 1,800,000. It would be prudent,' says the writer whom we cite, 'to give credit to those gentry whose predictions have not yet been falsified, than to a crowd of prophets now demonstrated to have been fools. Such was Aristarchus, who announced the universal wreck in the year of the world, 3,484; Arnold of Villanova, in the year of our Lord, 1395; John Hilten, a German, in 1651. The 18th July, 1816, was fixed for the last day. Mme. Krudener postponed it to 1819; M. de Libenstein to 1823; M. de Sallmard-Montfort to 1836; and other prophets, with as little success, to 6th January, 1840.' After 1840 came Miller, with his convenient system of continual postponements of a day definitely 'pre-ordained from the commencement of prophecy; then Beale, Bickersteth, Baldwin, Baxter, and multitudes of other busy B.'s, etc., repeated the fallacious quest, and many of them suffered themselves to be led away by the fascination of Louis Napoleon's sudden exaltation. Since his equally sudden downfall, comets, that fail to appear according to public announcement, or other forms of disaster, are foretold as the harbingers of the speedy doom.

Accepting the authenticity of the prophecies relied upon, and admitting, accordingly, the certainty of their fulfillment, we deny the possibility of ascertaining in advance the period and circumstances of their accomplishment, and we deny also the propriety of any attempt to discover these points.

There seems to be a special duty at this moment to resist and discourage all speculations of this character, because the aspect of the times, the character of contemporaneous intellect, the present and the prospective condition of the world, the tendencies of society, and many recent conclusions of science, are calculated to give a peculiar plausibility to such inferences. In previous periods there has, perhaps, been a

more portentous and palpable conjunction of menacing phenomena to suggest or to sustain the expectation of the near consummation of all things, but never before have the signs which appear to point in this direction been more various.

It would be interesting to dwell upon these topics, and upon others connected with them, but there is no space for the extension of remarks already too much extended. It would be instructive to show how every department of human activity threatens an early explosion or a sudden collapse. If no means of escape from such portents, and from the calamities portended by them, is discernible, it is a natural, though irrational, conclusion, that the roll of the ages is coming to an end, and that the volume of time must soon be closed. Yet just in proportion to the provocation thus offered to credulity should be the effort to resist it. The purposes of Providence are inscrutable, and 'His ways are past finding out.' We may not detect His plans for the continuance of the order of humanity, but we may not employ our blindness, and our ignorance of those plans, as evidences that the mighty scheme of creation can endure no longer. In the crises of human history, in the convulsions which result from the collision of an expiring and of a nascent form of civilization, there is always credulity alongside of skepticism, rash confidence by the side of despair, indifference to everything but material satisfactions in contrast with the hourly expectation of the crash of worlds. Greater commotions and more alarming omens marked other times, yet the world emerged from its obscurity with increased energy and glory and power. It may be again darkening to its eclipse, but the sun and the moon will not be struck from heaven by the darkening of their light. Man cannot tell what God will determine. A patient endurance of the woes that may arrive, an humble submission to the order of things prescribed by the Supreme Governor, abstinence from all unsanctified speculation about the future—(*scire nefas*)—obedience to the behests of religion, and readiness to accept any decree of the Almighty; such is the only temper suited to these times, or appropriate in any time. To each of us death must come, and 'after death the judgment.'

Whenever death does come, it is the end of earth to us—the final consummation, so far as we are concerned. It matters not, for future weal or woe, whether death overtake us in the midst of weeping relatives and friends, in solitude, in the battle, or in the tempest, in the presence of the last day, or in the anguish of the final conflagration. We have only to do our duty here, and to be ready to depart whenever summoned hence. It is no part of our duty to torture the mysterious utterances of Scripture, with the hope of ascertaining when the Second Advent will occur, when or how the Millennium will arrive.

In conclusion (and we are obliged to come to an abrupt conclusion, omitting much of what we had written), we would direct reverential attention to our Savior's reply to St. Peter, when that Apostle inquired in regard to St. John, in accordance with the then prevalent expectation that a few years would bring the destruction of the world:

‘If I will that he tarry till I come, what is that to thee? Follow thou me.’¹

1 No reader will, we hope, consider the above interesting and timely article as a dissuasive from the study of the *Apocalypse*. For, if devoutly studied, this ‘Revelation of Jesus Christ’ is full of consolation to every real Christian. Among the books of the New Testament, it is not only *unique* in kind, but it also sheds broad streams of light, clear and unmistakable, on great topics relating to the future destiny of mankind, in regard to which the rest of the volume is either silent, or else affords only the most obscure and unsatisfactory information. It was given for our instruction, warning, and consolation. Hence, if read with the devout, reverential, and humble spirit which is due to so awful and sublime a production, it cannot fail to be of great service to our faith, hope, and charity; especially if we take for our guide, in this study, some such work as Wordsworth's *Commentary on the Apocalypse*, or his learned and eloquent *Lectures* on the same portion of Scripture.

The above writer has alluded to the fact, that the authenticity of the Apocalypse has, at times, been much questioned, but he nowhere explains this phenomenon of Church history. It is well explained by Wordsworth. ‘There is scarcely a book in the whole Bible,’ says he, in his first Lecture, ‘whose genuineness and inspiration were more strongly attested on its first appearance than the Apocalypse.’ How, then, did it happen that they were afterward so seriously called in question by a few eminent men?

After discussing this question in his first Lecture, the author opens the second with the following statement of what he had there proved and estab-

lished: 'In pursuing our argument on the authority of Holy Scriptures, we are led in our first Discourse to commence an inquiry into the genuineness and inspiration of the APOCALYPSE. It was stated, on that occasion, that in the age in which it was written the Book of Revelation was received as an inspired work of the Apostle and Evangelist St. John. The question was then proposed, How came it to pass that in the *third* and *fourth* centuries *doubts* were entertained by some concerning its divine authority? To this a reply was found in the fact, that a portion of this book — the Twentieth Chapter — was misinterpreted, and made to bear a sense repugnant to the general tenor of Holy Scripture; and that this misinterpretation owed its origin to Judaizing prepossessions and to oral traditions, and to an incorrect view of the plan of the Apocalypse: that it consisted in imputing to *that* chapter the doctrine commonly called the doctrine of a *Millennium* — that is, of a personal reign of our Savior Christ, together with his saints, on earth, for a period of a thousand years *before* the General Resurrection and the day of Judgment.

'It was observed, that no sooner was *this* doctrine imputed to the Apocalypse, than the Apocalypse itself declined in repute, and that, unhappily, some persons, instead of refuting the human misinterpretation, rejected the divine book; *but* that in course of time the *misinterpretation was refuted*, the doctrine of a *Millennium was exploded*, and that no sooner was this the case, than the Apocalypse arose to its former position. You were reminded, also, that for a period of ten centuries — that is, from the middle of the fifth to that of the fifteenth — there was scarcely a Church or person of any note in Christendom who did not receive the Apocalypse, or did *not* reject the *Millennium*; and that by our own Church the former is acknowledged to be inspired, and the latter condemned as heretical.

'This doctrine, however, it is well known, has been revived in our own time, and is now propagated with industrious zeal, and appears to have laid a strong hold upon the public mind; and for this reason also, as well as from its intimate connection with our present subject, the Apocalypse, we are led to bring the doctrine of the *Millennium* to the test of Holy Writ; and we found (to adopt the language of our own Church) that it "is repugnant to Scripture."

In like manner, in his *generally* admirable Essay on the *Interpretation of Scripture*, Dr. Ellicott says:

'The subject of Prophecy and Typology is, undoubtedly, one of difficulty, and in its practical bearings and expansions still more so. It is extremely difficult to lay down any rules, and yet it is very precarious to attempt such methods of applying Scripture without some external guidance. In the case of unfulfilled prophecy, especially, the temptation to indulge in unauthorized speculation is often excessive. Uneducated and undisciplined minds are completely carried away by it, and even the more devout and self-restrained frequently give themselves up to sad extravagances in this form of the application of God's Word. The result is, only too often, that better educated and more logical minds, in recoiling from what they justly deem unlicensed and preposterous, pass over too much into the other extreme, and deem pro-

phesy in every form as a subject far too doubtful and debatable ever to fall within the province of Scripture application. *It is, we fear, by no means too much to say, that a great part of the present melancholy scepticism as to Messianic prophecy is due to the almost indignant reaction which has been brought about by the excesses of apocalyptic interpretation.* The utmost caution, then, is justly called for. Nay, it would perhaps be well if unfulfilled prophecy were never to be applied to any other purposes than those of general encouragement and consolation. We may often be thus made to feel that we are in the midst of a providential dispensation, that though our eyes may be holden as to the relations of contemporaneous events to the future, whether of the Church or of the world, we may yet descry certain bold and broad outlines, certain tendencies and developments, which may make us wend our way onward, thoughtfully and circumspectly — wayfarers who gaze with ever-deepening interest on the contour of the distant hills, even though we cannot clearly distinguish the clustered details of the nearer and separating plain. But though it may thus be wise only to notice unfulfilled prophecy in the broadest and most general way, it is far otherwise with applications or illustrations derived from what has either obviously received its fulfilment, or, like Deut. xxviii., is so plainly still receiving it, *that doubt becomes unreasonable and impossible.*—EDITOR.

ART. VI.—1. *Jesus.* By Charles F. Deems, Pastor of the 'Church of the Strangers,' New York. New York: United States Publishing Company. 1872. pp. 756.

2. *The Jesus of the Evangelists:* his historical character indicated; or, an examination of the internal evidence for our Lord's divine mission, with reference to modern controversy. By the Rev. C. A. Row, M. A., of Pembroke College, Oxford, etc., etc. London: Williams & Norgate. 1868. pp. 425.

We have already noticed, briefly, the two works whose titles stand at the head of this article. The first is purely historical, the second is controversial; and, though widely different in nature and design, both are excellent of their several kinds. Both relate, as their titles import, to the character and mission of Jesus. The press has, indeed, teemed of late with works of great learning, and varied ability, on the all-important and the inexhaustible subject of the life and character of Jesus. Neander, Dorner, Lange, Tulloch,

Row, Parsons, Hannah, Young, Strauss, Renan, Seeley, Beecher, Bushnell, Turnbull, Pressensé, and Deems, are a few of the authors who have prepared and published works on the life of the 'God-Man;' calling forth torrents, not to say floods, of critical disquisitions, essays, reviews, and books. It is not our purpose to notice, in this paper, any of the numerous works in detail, or to throw ourselves into the current of the literature they have created. We merely intend, on the contrary, to make them the occasion of discussing, in our own way, certain great questions pertaining to the character and mission of Christ, which have hitherto been ignored in the Christological literature of the day.

The great questions here referred to are, indeed, not even noticed, much less discussed, by any of the authors above-named. These questions lie, in fact, above and beyond the scope and design of their works, and have, therefore, failed to engage their attention. This must be our apology for the attempt (however humble the performance) to contribute our mite toward a knowledge of the glory of Christ.

'And the Word was made flesh, and dwelt among us (and we beheld his glory, the glory as of the only begotten of the Father), *full of grace and truth.*' These words relate, as the reader is aware, to the character of Christ Jesus, the God-Man, who was born of the Virgin Mary, and suffered under Pontius Pilate. No words could be more impressive than these — full of *grace* and *truth*. Behold the Lamb of God, full of humility, meekness, gentleness, mercy, and love, or, in one word, full of *grace*. Behold, on the other hand, the Son of God, full of faithfulness, majesty, power, dominion, justice, and glory, or, in one word, full of *truth*. Behold the Lamb of God, and adore all these wonderful attributes of infinite loveliness, which human language was not invented to express, nor finite minds formed to conceive. Behold the Lord of glory, veiled in human flesh, and bow, with lowliest reverence, before the serene but awful Judge, whose eye is omniscience, and whose arm is omnipotence. Behold, in short, the Eternal Word made flesh, and see how, on the theatre of human action, God himself has lived, and moved, and suffered, and died. Well

has the infidel Rousseau, in a transport of passionate admiration, exclaimed, 'Socrates died like a philosopher, but Jesus Christ like a God.'

His wonderful life is conceivable, is possible, only on the supposition, that the soul of the human Jesus, the son of Mary, was mysteriously united with, and sustained by, the spirit of the divine Christ, the Son of God. This is the hypothesis, and the only hypothesis, which serves to explain the character and career of Jesus — a character and career which stands alone, absolutely alone, in solitary and unapproachable grandeur among the children of men. How full, how round, how complete, is the transparent and wonderful beauty of that life! Uniting the innocence of the dove with the wisdom of the serpent, without the weakness of the one or the wiles of the other, he is the perfect image of Him who formed both the serpent and the dove. In the language of Holy Writ, he is the brightness of his Father's glory, and the express image of his person. The best man that ever lived, when compared with Jesus, is but a feeble and flickering taper by the side of the all-cheering sun, which binds the planetary worlds to his bosom and blesses them with his beams. We beheld his glory, says St. John, the glory as of the only begotten of the Father, full of grace and truth. Every conceivable ray of loveliness, and beauty, and perfection, emanates from the person of Jesus, the only begotten, the peerless, Son of God.

The good man of the stoics, the grandest ideal of the ancient world, possesses, when compared with the Jesus of the Evangelists, only a sort of cast-iron goodness, which is full of truth in its justice, but utterly deficient in the grace of tenderness and mercy. The basis of his character is pride. Nor could it have been otherwise, for the virtue of humility, though the most sublime of all the virtues, had never dawned on the Greek mind. The Greek language, indeed, though the richest and most perfect ever invented by man, had no name for the grace of humility, the low and fruitful ground of all the Christian virtues. Hence, if Socrates, and Plato, and Aristotle, and all the ancient philosophers combined, had labored to produce the conception of a perfectly good man, their ideal must have

fallen far below the actual Jesus of the Gospels. 'The Word was made flesh, and dwelt among us.' Aye, he descended from the throne of eternity, and, assuming the form of a servant, he set that example of humility, love, and self-sacrifice, which has revolutionized the thoughts and opinions of mankind respecting the nature of human goodness. Even Rousseau, Renan, and Lecky, infidels though they were, have, in terms of overwhelming eloquence, recognized the divine beauty of the character of Jesus. As for ourselves, the impression which that character makes on our imagination, fills us with such an adoring wonder, admiration, and love, that it has, more than a thousand times, imposed silence on our feeble powers of expression. The soul that is not loyal to Jesus is lost. The sense of the true, the beautiful, and the good, is either erased from the tablets of its memory and imagination, or is so blotted and blurred by sin, that the brightness of the divine glory shines upon it in vain. 'Blessed are the pure in heart, for they shall see God.' But the soul which, by its purity, is prepared to see God, cannot fail to see in Jesus 'the brightness of his glory,' and 'the express image of his person.' 'Whosoever hath seen me,' says the Son, 'hath seen the Father.' 'I and my Father are one.'

If, indeed, any mere human being had taken such language upon his lips, he had long since been derided, despised, and scorned as the vilest of all arrogant impostors. But so wonderfully, so miraculously, has this claim of Jesus been sustained by his life, his sufferings, and his death, that, after the lapse of eighteen hundred years, he still stands before the civilized world as the incarnation of the most absolute and perfect humility. Even infidels, who have doubted his divinity, have been constrained to acknowledge his humility and meekness. That an illiterate fisherman, such as Matthew or Mark, should have succeeded in combining and in harmonizing such opposite qualities — the highest glory of the Divine Being with the lowest humility of human nature — is, to our minds, one of the strongest of all the proofs of the inspiration of Scripture. No genius, however highly cultivated by science, or philosophy, or poetry, was equal to such an achievement, much less the genius

of the illiterate fishermen of Galilee. The life and character of Jesus, considered merely as a conception of ideal goodness—towering, as it does, above all the loftiest conceptions of orators, or poets, or philosophers—is among the most stupendous of miracles; and evinces the presence of the eternal and almighty Spirit of God, no less than did the stoppage of the sun on mount Gibeon, or the moon in the valley of Ajalon. In all literature, whether ancient or modern, there is no failure more signal, not to say more ridiculous, than the attempt of Renan, or other infidels, to explain how, without the supposition of divine aid, the sublime myth of Jesus arose in the imagination of the Evangelists. We could as soon believe, indeed, that the character of Jesus, ‘the brightness of his Father’s glory and the express image of his person,’ arose from the marshes or mists of Judea, as from the unilluminated minds of men.

The justice of man, even when most perfect, is tinged, if not tainted, with harshness and cruelty; and the mercy of man, even when most lovely, leans to the side of weakness and imbecility. But the character of Jesus unites a justice, without the least stain or shadow of harshness, with a mercy devoid of the least sign or symptom of weakness. Both his justice and mercy are absolutely perfect, not only in themselves, but also in their relations to each other; and, above all, in their sublime relations to the condition and the wants of a fallen world. Each is stamped with a divine glory. His mercy is not a weak and glittering thing, like the caprice or favoritism of man, but proceeds, everywhere and at all times, according to fixed and immutable rules. His justice, in like manner, is never fitful or harsh, but acts, at all times and in all places, according to the inflexible dictates of eternal goodness. Both having their roots, alike, in the universal and eternal goodness of God, his justice is as mild as his mercy, and his mercy is as majestic as his justice.

It is a great mistake to suppose, as so many seem to do, that the Father is all justice, and the Son all mercy. For God, the Father, so loved the world that he gave his only begotten Son, that whosoever believeth in him might not perish, but have

everlasting life. The Son, responding to the eternal love of the Father, cried, 'In the volume of the book it is written, lo! I come to do thy will, O God!' The justice of God is, indeed, merely a phase of that 'tender mercy which is over all his works,' upholding and enforcing the moral law, upon the preservation of which inviolate depends the highest good and glory of the universe. The mercy of God, no less than his justice, demands obedience to that law, which is not only wise and just, but also *good* for his creatures. His justice, on the other hand, coöperates with his mercy, in seeking to save the ruined and the lost, by redeeming them, and raising them into a conformity with his holy law. His justice and mercy, in one word, instead of clashing with each other, most perfectly combine and coöperate in the production of the highest happiness, good, and glory of the created universe. Hence if, as seen in most systems of theology, there seems to be a conflict between these two attributes of the Supreme Ruler of all things, this exists, not in the things themselves, but only in our limited, feeble, and self-contradictory conceptions of them. The human mind has, no doubt, in the dim twilight of the past, too willingly rested in a semi-chaos of half-formed views, although, by patient thought and meditation, it might long since have arrived at the perfect clearness and satisfaction of truth in regard to the harmony of the divine attributes. To show this in relation to the Son of God, who is 'the brightness of his Father's glory,' is the object of the present discussion.

He is the brightness of his Father's glory, and the express image of his person, not in one attribute only, but in all. He represents the perfect justice, no less than the perfect mercy, of God. Hence, in the Epistle to the Hebrews, the Father says to the Son, 'Thy throne, O God, is forever and ever: a sceptre of righteousness is the sceptre of thy kingdom. Thou *hast loved righteousness and hated iniquity*; therefore God, even thy God, hath anointed thee with the oil of gladness above thy fellows.' The Father so loved the world that he gave his only begotten Son to die for it; and the Son so hates iniquity, that rather than save one soul in its sins, he will turn the wicked into hell, and all the nations that forget God. It

is only poor, blind, self-indulgent, and self-deceiving sinners, who, in their fond reliance on the mercy of Christ, forget the most awful expression in the word of God, 'the wrath of the Lamb.' He is, indeed, as full of the righteousness and truth of God as he is of his mercy and grace. With respect to both attributes, or else with respect to neither, he is the brightness of his Father's glory, and the express image of his person.

A character which is all mercy (supposing such a character possible), would, indeed, be a most imperfect one; for mercy without justice is not real mercy. It may be weakness, or favoritism, or partiality, regardless of the difference between right and wrong, holiness and sin, but it bears no resemblance to the mercy of God, which seeks the highest happiness of his creatures in the perfection of their holiness, and in that perfection alone. Justice is, in fact, as indispensable to the perfection and glory of mercy, as mercy is to the perfection and glory of justice. Take away justice, or all sense of wrong, and mercy degenerates into an appalling indifference to crime, worse than that which now curses the land we dwell in, and which 'smells to heaven.' Take away mercy, or the feeling of compassion, and justice hardens into an iron rule, like that of Rome, which called down the vengeance of Heaven on the conquerors of the world. Justice and mercy are, indeed, twin attributes of Deity, and, like the twin stars of heaven, each holds the other in its appointed orbit, and reflects its glory. However antagonistic they are made to appear in most systems of theology, there is a real harmony between them, and this is their life, their light, their joy, and their eternal beauty. A mercy without justice is a mirage and a mockery. A justice without mercy is, at least to a fallen world, a frightful Erinny, whose hair is curling snakes, and whose face is hate. But the union, the harmony, the perfect equipoise, of justice and mercy, is the image of God, and the joy of the universe. Such, precisely, was 'the Word which was made flesh,' who dwelt among men, and shed the rays of his glory on a darkened world, 'the glory as of the only begotten of the Father, full of grace and truth.'

There is no system of theology (so far as we know) which

exhibits the divine attributes of justice and mercy otherwise than as in violent conflict with each other. All systems insist, indeed, that there is a real harmony among the divine attributes; but, instead of showing us that harmony, they set before us a frightful discord between them, and then leave us to walk by faith, not by sight. They tell us, it is true, that this frightful discord is *apparent* only, while the harmony is *real*; and that we should, therefore, walk by faith amid the contradictions, darkness, and confusion of their systems. No one will deny, however, that if we could only look above and beyond all these dark and discordant systems, and see, with clear and steady eye, the real harmony of the divine attributes, this would be an infinite gain to the science of theology. We can invite your attention to this 'high endeavor' with the greater confidence, because, having long since made it, far better judges than ourselves have pronounced it crowned with 'the glad success.' If the reader will, then, lend us patient attention, he shall, perchance, behold the harmony of the divine attributes in all the glorious perfection of their full-orbed beauty. The darkness of the reigning systems will, we humbly trust, vanish from his mind, and the discords of error shall give place to the divine harmony in the bosom of the first True, the fair Fair, and the first Good, who sits on the throne of eternity, and wields the sceptre of universal empire.

'The Word was made flesh.' What Word? It is thus described by St. John: 'In the beginning was the Word, and the Word was with God, and the Word was God. The same was in the beginning with God. All things were made by him; and without him was not anything made that was made.' The Word, then, which was made flesh is the same which, in the beginning, 'created the heavens and the earth,' and all things therein. It is the Word which said, 'Let there be light, and there was light.' It is the Word which, according to Revelation, caused the creation, in all the grandeur and the glory of its harmony, to roll out of chaos, resounding with the song of the morning stars, and the loud anthem of all the sons of God shouting for joy. This is 'the Word which was made flesh and dwelt among men, who beheld his glory, the glory

as of the only begotten of the Father, full of grace and truth.'

Truth lies at the basis of all that is great, or good, or beautiful among men. Nay, truth is the foundation of all that is great, and good, and glorious in the universe of God.

All-glorious truth! or ere the world was formed,
Or aught created ere had leave to be,
The bosom of the mighty God was warmed
By thy resplendent charms, who unto thee
The homage paid of boundless ecstasy:
Thou goest forth all things of earth among,
But fairer than all things of earth to see—
Forever lovely and forever young,
With glory in thine eye and music on thy tongue.

She it is whose touch adorns, whose smile irradiates, and whose soul animates all things beautiful. It is the chief charm, the supreme glory, of Jesus himself, that he was 'full of truth,' absolutely full, without deficiency or flaw. This it is which declares his divinity, and makes him 'the fairest among ten thousand, and altogether lovely.'

Woman is, next to the man Jesus, the most beautiful object God has ever sent into our world. But what is woman without truthfulness of character? Even the divine Desdemona, 'the cunningest pattern of excelling nature,' owes her superlative beauty to the openness, the frankness, the candor, the simplicity, and the greatness of character which nothing but truthfulness can give. Take these away, and let deceitfulness or insincerity reign in their place, and we turn with a sort of loathing from the very loveliness of form and feature which had erst held our imaginations spell-bound with emotions of delight. It is truth, and truth alone, which makes the difference between the fair Desdemona and the false Duesza. The poet, though 'rapt with the rage of his own ravished thought,' forgets all the little creations of his own fancy, and stands entranced before that wonderful creation of the divine imagination itself—a beautiful woman. But take her truthfulness away, and she becomes, at once, a whited sepulchre of deceit. Whether in man or in woman, there is a wonderful beauty in truthfulness of character, which nothing else can imitate or

rival. It is to be like him, who was 'the brightness of his Father's glory, and the express image of his person.'

It is our great quarrel with systems of theology, that they mar, or mutilate, the perfect truthfulness of Jesus. It is our great quarrel with them, that they darken and obscure, with dim eclipse, the glory of him who, as the representative of God on earth, was 'the light of men.' 'God is light, and in him there is no darkness at all.' But in the Jesus of our theologians there are shades of darkness and deceit. After having shown this, we intend to appeal from the Jesus of our theologians to the Jesus of the Evangelists, from the darkened and disfigured Jesus of the schools to the all-glorious Jesus of the Gospels.

'All theologians admit,' as M. Bayle says, 'that God could, if he would, easily convert the soul,' by the mere word of his power. If so, then it was clearly unnecessary that he should lay aside the sceptre of universal empire, and leave the throne of eternity, in order to convert and save the souls of men. If so, then it was clearly unnecessary that he should assume the form of a servant, and become a man of sorrows, or expire amid the agonies of the cross, in order to save sinners; for, according to the admission of 'all divines,' he might, from his throne on high, have easily accomplished this object by the mere word of his power.

What means, then, his descent from heaven to earth? What mean the groans of Gethsemane, the unutterable agonies of the garden, in which he sweat, as it were, great drops of blood, and the awful cry of the cross, 'My God, my God, why hast thou forsaken me?' Why all this, we say, if he might so easily, and so perfectly, have accomplished the grand object of his mission by the mere word of his power? Were they not, indeed, according to the admission of 'all divines,' only so much humiliation, and sorrow, and suffering, and agony *in waste*? Was not his advent, and suffering, and death, if that admission be true, an act of folly rather than of wisdom, and a stupendous failure when compared with the success which might have attended the mere utterance of a word? Whether this be so or not, it certainly so *seems* to the human mind;

and whether the admission of 'all divines' be true or false, it certainly involves in clouds and darkness the advent of the Son of God; so that in 'the Word made flesh' we behold, not the wisdom, and the power, and the glory of God, but only the stupendous weakness of an awful mistake.

If, by the utterance of a word, you could save a crew from shipwreck and destruction, would it be any evidence of your wisdom, or goodness, to withhold that word? If, on the contrary, instead of speaking that word, you should choose to labor at their salvation, through a long series of years, and, after all, permit half the crew to perish, would you deem that any proof of your wisdom or goodness? What, then, must we think of the advent, the labors, the sufferings, and the cross of Christ, if, by the mere word of his power, he might have converted and saved the souls of all men? And what must we think of his truthfulness, or sincerity, when he solemnly declares that he 'will have all men to be saved,' if, at the same time, he refuses to utter the word by which they might all be easily converted and saved? Or when he declares that he 'is not willing that any should perish,' if, at the same time, he permits millions upon millions to perish, all of whom he might easily save by one glad word of his glorious power? The admission of 'all divines,' then, whether true or false, certainly involves in clouds and darkness, more appalling than death, the truthfulness and sincerity of 'God our Savior, who,' according to his own express declaration, 'will have all men to be saved, and to come to a knowledge of the truth.'

This is not the only instance in which the admission of 'all divines' has proved to be a source of darkness and confusion, of doubt and despair. It has, indeed, filled almost every department of theology with a darkness which no eye can pierce, and no imagination illuminate. 'Conversion,' says one of the greatest systematic divines that ever lived, 'is certainly in the power of God. Hence, he adds, 'let him be asked if he will have all men to be saved, when he promises to give some a heart of flesh, while he leaves others with a heart of stone.' That is to say, let him be asked if he be really in earnest, or speaks the truth, when he declares that he 'will have all men

to be saved,' seeing that he could, if he would, so easily save all men by the fiat of his omnipotence? Let him be asked if he will have all men to be saved, when he willingly leaves so many to perish, whom the word of his power might have plucked from the pit and planted forever in Paradise? Let him be asked —. No. Greatly as we revere the learning, the genius, and the piety of the great divine in question, we refuse to ask his question. We utterly refuse to ask God if he 'will have all men to be saved,' because, in words as clear, explicit, and unequivocal as were ever uttered by the lips of man, or angel, or God, he has already assured us that he 'will have all to be saved, and to come to a knowledge of the truth;' that he 'is not willing that any should perish, but that all should come to repentance.' We do not doubt his truth, and we believe his word. 'He will have all men to be saved.' 'He is not willing that any should perish.' These truths are, indeed, corollaries flowing from the most sublime utterance of revelation, that 'God is love,' as clearly as the rays of the sun flow from his flaming disk, and we should have recognized them even if God himself had not done so for us, or announced them as certainly, eternally, and immutably true. We have his own word for it, that he 'will have all men to be saved'; and hence, laying aside the weapons of our logic, we rest in the truthfulness of his character, as well as in the ineffable glory of his goodness. As 'God is love,' so he 'will have all men to be saved.' As God himself has uttered the word, so he 'is not willing that any should perish, but that all should come to repentance,' and to eternal life.

But how grievously has this great, sun-like truth been mutilated, darkened, disfigured, and obscured, by the miserable logic and metaphysics of man. The illustrious divine in question just looks the word of God directly in the face, and then proves, by logic, that he will *not* have all men to be saved; that he is more than willing that many should perish! Nay, he concludes that, from all eternity, God fore-ordained and decreed the salvation of a part of mankind only, decreeing and dooming, at the same time, all the rest to the eternal horrors of the second death. He believes, no less than we ourselves

do, that ‘God is love;’ but he does not, and he cannot, pretend to see his infinite love in the awful decree of a portion of mankind to the dark abodes of the eternally lost. On the contrary, he himself calls this decree a *decretum horribile* — a horrible decree. He reminds us, however, that we must walk by faith, even amid the horrible darkness by which our sight is oppressed, our reason confounded, and our imagination filled with the gloom of the pit, still believing that God is infinitely good and merciful, as well as holy and just.

This system and its opposite, with their several varieties, cover the whole domain of theology. The opposite system, however, does not deliver us, except in appearance, from the difficulties and darkness, the doubts and despair, which are so appalling in the one just described. Setting out, as it does, from the same principle as the first, that God could easily convert and save all sinners if he would, it is involved in contradictions as great, and in darkness as gross, as those from which it has fled with horror. We mention the defects of these systems, not as a reproach to their advocates, for among those advocates there have been, on both sides, men of as great learning, genius, and piety as the world has ever produced. We mention them merely to illustrate the influence of a single error, which is common to both systems, and which, for more than eighteen hundred years, has filled both systems with a darkness and confusion that obscures the divine beauty of the perfect truthfulness and sincerity of Jesus.

On more occasions than one have we witnessed a conflict between the two systems, in the form of a public debate. The advocate of the second system declaimed, with great vehemence, against the horrors of the idea that God had, from all eternity, decreed the everlasting destruction of a large portion of mankind. Suppose, said he, that God had foreseen that twenty men would fall into a pit, and, instead of determining to deliver all, he had resolved to save only eight, and to leave the other twelve to perish, would not his goodness have been most partial, limited, and imperfect? How much more, then, if, instead of decreeing the salvation of all men, he had doomed,

by an eternal and immutable decree, a large portion of them to hell-torments forever?

The advocate of the first system replied: Your system is as full of difficulty and darkness as ours. You admit that God could easily save all men, if he would; and you admit that, in time, he actually finds men in a fallen, ruined, and lost condition. Yet, according to your system, he does not save them all. On the contrary, he *actually* saves only a part of mankind, and leaves all the rest to perish eternally in hell torments. Is not his goodness, then, just as partial, limited, and imperfect in your system as it appears to be in ours? Is not the apparent darkness and difficulty the same in both systems? Cease, then, to declaim against our system, unless you can show us a better, or one that more clearly reflects the infinite power and goodness of God.

After the debate was over, the opponent of the first system, knowing that we did not believe in that system, asked, with an air of triumph, 'Didn't I use him up?' 'Yes,' we replied, 'you used him up, and then he used you up. The truth is, you were both used up, and the fight was only the old story of the Kilkenny cats over again.' But while each confuted the other, each could see the destruction of his adversary's position, but not of his own. Each could see the mote in the other's eye, but not the beam in his own eye. Each could tear down the dark and discordant system of the other, but he had nothing better to offer in its place. And, in this respect, they were representative men; for precisely such has been, in all ages, the result of the conflict between the same two systems of orthodoxy. Nor can the conflict ever cease, or be attended with any more satisfactory results, so long as both systems set out from the same fundamental error—that as God is endowed with the attribute of omnipotence, so he could easily convert and save the souls of all men, if he chose to do so. Bound, by this common error, in the darkness of human systems, their respective advocates can only growl at each other, just as if they had been made 'fierce by dark keeping,' instead of coming together and uniting in the light of truth, and rejoicing in the glory of 'God our Savior, who

will have all men to be saved.' Let us, then, break the bonds of this error, and, revealing the transcendent and ineffable beauty of Jesus, lead all men to unite in the song of the angels, 'Glory to God in the highest, on earth peace, and good will among men.'

But is this an error? It certainly *seems*, at first view, perfectly evident, that if God is omnipotent, as no doubt he is, he might easily convert and save the souls of all men. But is this *seeming* truth a *real* one? Incredible as the paradox may seem, at first view, we venture to affirm, and we hope to demonstrate, that omnipotence itself cannot convert and save the soul, without its own voluntary consent and active coöperation. This paradox seems, at first view, not only incredible, but impious; and, therefore, it is that its rejection has so long bound the minds of men in chains of error and in dens of darkness. It is just because they have so long yielded to the *appearance* of self-evident truth, and shrunk from the *appearance* of paradox, that the minds of men have failed to see the infinite glory of God, except as it is usually seen — broken, disfigured, and darkened — through the manifold contradictions of their discordant systems. Those systems have shown us that glory, not as seen face to face, but only as seen through an uneven 'glass darkly.'

This charge against the weakness, or the miscarriage, of the human mind, may seem to imply a want of reverence for the great thinkers of past ages, who have devoted their powers to the study of theology. If so, we appeal, in our defence, to the wonderful history of that wonderful thing, the human mind. Precisely the same thing has happened to it, and from precisely the same source, in the study of astronomy, as that which we have ascribed to it in the study of theology; that is, its miscarriage has been as great, as long continued, and as deplorable, in regard to the perfectly harmonious and sublime system of the material universe as that which we have ascribed to it in regard to the equally harmonious and sublime system of the spiritual universe. And this miscarriage has, more over, resulted from precisely the same source in the one case as in the other: it has resulted, namely, from a too great reli-

ance on that which, at first view, *appeared* unquestionably true, and the consequent rejection, or the oversight, of that which seemed strange, paradoxical, and incredible. In both cases alike, error, under the guise of self-evident truth, has bound the human mind in the chains of unsuspected delusion, and led it astray from those great, glorious, and all-harmonizing truths, which have, all the while, existed under the guise of self-evident error. 'It is the glory of God,' says the wise man, 'to conceal a thing'; but, he adds, 'it is the glory of the King to search it out.' Thus, behind the *appearance* of truth, has He concealed, for long, long centuries, the golden secret of the material universe, leaving his rational creatures to wander amid shadows and darkness, discords and doubts, ere the day-spring from on high was permitted to appear. But he did not so conceal it that it might not be searched out by those great kings of thought — a Copernicus, a Kepler, a Galileo, and a Newton. As these great thinkers, one after the other, ground to atoms, with inexorable logic, false appearances of truth that had deceived all former ages, and established in their place seemingly strange and incredible paradoxes, new eras of light dawned on the darkness of astronomy, and continued to spread in all directions until in the end the unity, order, harmony, and awful beauty of the Cosmos rose in full-orbed glory on an astonished world.

What could be more perfectly evident, at first view, than the apparent truth, that the earth is the centre of the universe, around which the sun, moon, and stars revolve? Yet this apparent truth, so clear in itself, was full of uncertainty, darkness, and confusion in its consequences. For more than two thousand years, indeed, it obscured the mechanism of the heavens with enigmas dark as night, and clouded its glory with difficulties as inexplicable as the Sphinx riddle. No one but an accomplished mathematician could, after the study of years, begin to conceive the complications and contradictions which, in the course of time, flowed from the single assumption, that the earth is the centre of the celestial motions. The system of the world, not as it is in itself, but as it appeared in the reigning astronomy, led Alphonso X, the King of Spain, to

declare that if he had been in the counsels of the Almighty he could have shown him how to make a better system. He could scarcely have suggested a worse one. The grotesque mixture of truths and traditions, of shining lights and dark shadows, which went under the name of astronomy, proved so offensive to the great mind of Copernicus, that he resolved to try anew, and for himself, the stupendous problem of the world. He set aside the assumption which had led all former ages astray and plunged mankind into an abyss of darkness—the assumption, namely, that the earth is the centre of the universe. He placed the sun in the centre of our system, and gave two motions to each of the planets—a daily motion around its own axis, and a yearly motion around the sun. Over this sublime scheme his great mind brooded for forty long years. His profound meditations and immense mathematical calculations brought to light, for the first time in the history of astronomy, the wisdom of God as displayed in the wonderful mechanism of the heavens. In the preface to his immortal work, *De Revolutionibus*, he says: ‘Although the following system seems incredible to the human mind, and is contrary to the opinion of the majority, yet, in the sequel, by the grace of God, *I will make it clearer than the sun.*’ This magnificent word was no idle boast. The performance was equal to the promise. He did, indeed, make his system, however strange and incredible at first view, ‘clearer than the sun,’ and, as a mirror of the divine wisdom, more glorious than ten thousand suns.

Again, what could appear more evident, at first view, than the doctrine of Plato, that all the heavenly bodies revolve in perfect circles. Yet this dogma, seemingly so obvious to the senses, did not accord with the phenomena of the heavenly motions, when closely observed. On the contrary, the attempt to bring those phenomena into harmony with that fundamental assumption, or dogma, confounded, for more than two thousand years, all the most gigantic efforts of the human mind to discover the order and beauty of the celestial motions and mechanism. The beautiful book of the heavens became continually more and more scribbled over with human inven-

tions—with circles turning on circles, with cycles and epicycles, with hypocycles and concentric cycles, which had no existence except in the imagination of the astronomer—until all its beauty was blurred and blackened. Kepler tried no less than seventeen different hypotheses, and spent no less than twenty years of his life in severe labor, in order to introduce something like the order and light of truth into the old astronomy. But it was all in vain. The old notion, said he, that the heavenly bodies revolve in circles, which seemed so agreeable to metaphysics and the senses, and which was universally received among philosophers and astronomers, was the great ‘thief of my time.’ But, at last, he began to suspect this old notion, this thief of his time, this grand deceiver of the human race, which had so long reigned, with despotic sway, under the guise of an unquestioned and unquestionable truth. His doubt dispelled a thousand difficulties. To use his own words, the idea that the planetary worlds revolve, not in circles, but in ellipses, raised him ‘as out of a sleep,’ and gave him ‘a new light.’ It did, indeed, raise not only Kepler, but the human mind itself, out of the sleep of all past ages, as well as give a new light to all the future ages of eternity. It led, with less labor than he had expended on the old notion, to the discovery of the three sublime and beautiful laws, which earned for the great discoverer the proud title of ‘the legislator of the skies.’ Hail to thee, O mighty son of genius! the child-like, the god-like Kepler! We would not give a button for the man who, without tears of sympathetic admiration and delight, can read the glad Eureka which bursts from his mighty soul, as the glory of God bursts upon his enraptured vision. ‘Nothing holds me,’ he cries. ‘I will indulge my sacred fury. For I have stolen the golden vase of the Egyptians, to build up for my God a tabernacle far away from the confines of Egypt. The die is cast, the book is written, to be read either now or by posterity, I care not which. I can afford to wait a century for a reader, since God himself has waited six thousand years for an observer.’

These illustrations are sufficient for our present purpose. They show that the grand eras of light and glory, in the most

sublime of all the physical sciences, originated in the rejection of an apparent truism *as false*, and the recognition of an apparent falsehood *as true*. It is, then, no disparagement of the powers of the human mind to suppose that, in the study of the system of the spiritual universe, it has, in like manner, been misled by the influence of an *apparent* truism, and plunged into an abyss of darkness, from which the labor of centuries has failed to deliver it, by bringing to light, once for all, the all-irradiating power of some *apparent* falsehood. That such a thing *may* happen, we have abundantly seen; and that it has *actually* happened, in regard to the universe of mind as well as in regard to the universe of matter, we shall now proceed to demonstrate.

The apparent truism, which we reject, is the assertion that God could, if he would, easily convert and save the souls of all men by the mere word of his power. This assertion has always been, as M. Bayle says, admitted by 'all divines.' It is no longer admitted. Though it has, at first view, seemed so clearly and unquestionably true that it has never been examined; yet, upon a close and searching scrutiny, it will be found to be as false in itself as it is full of darkness in its consequences. The rejection of this old notion, this fatal error in the guise of self-evident truth, will raise us as out of a sleep, and give us a new light respecting the attributes of God and the moral system of the universe. It will enable us, as we hope to show, to solve, in a perfectly clear and satisfactory manner, the great problems of the spiritual universe, at which past centuries have labored in vain — introducing order where there was confusion, harmony where there was discord, light where there was darkness, and beauty where there was deformity. Let us see whether, by the grace of God, it may not be made to do all this, or whether the performance will be as mean as the promise is magnificent.

In the first place, then, the apparent truism that God could, if he would, easily convert and save the souls of all men, by the mere word of his power, *is false in itself*. Doubtless it seems impious, at first view, to deny this hoary and venerable truism; and this is, perhaps, the chief reason why it has been

so long embraced without suspicion and without examination. But if closely scrutinized, and fully examined, it will be found to be, *not only false in itself*, but also fraught with infinite darkness and detriment to the science of theology. 'All things are possible with God.' Hence, literally speaking, it is improper to say that God cannot do anything; that is, anything which is possible in itself, or conceivable by the mind.

It is conceded, however, by all theologians, and by all thinking men, that 'God cannot work contradictions.' He cannot make two and two equal to five. He cannot make a foot measure with only one end to it; nor can he cause a thing to be, and not to be, at one and the same time. He cannot make a circle coincide with a square, or a square with a triangle. He cannot do such things, not because his power is less than infinite, but because such things, or rather such inconceivable nothings, are not the objects of power. Omniscience cannot *think* them, much less can omnipotence *do* them. Indeed, if God should attempt to do such things, to realize such inherent and immutable absurdities, he would proclaim, not his infinite wisdom and power, but only his weakness and folly. It is the glory of the divine omnipotence, that it always works within a sphere of light and love, without the least tendency to break over into the outer darkness of impossible conceits, the region of contradictions, or inherent absurdities. Power, from its very nature, is confined to the accomplishment of such things as are possible, or imply no contradiction. Hence it is not within the province or domain of almighty power itself to break up and confound the immutable foundations of reason and truth. God possesses no such miserable power, no such horribly distorted attribute, no such inconceivably monstrous imperfection and deformity of nature, as would enable him to embody absurdities and contradictions in actual existence, or even to conceive so weak a design. 'God cannot lie,' even in thought, much less can he embody a lie in his creation.

All theologians, and all thinking men, we repeat, concede that God cannot work contradictions. But if he should convert the soul by his power, or compel its obedience, this would be to work a contradiction. For a compelled obedience is

evidently no obedience at all. A necessitated holiness, or virtue, is a contradiction in terms as plain and palpable, if closely examined, as the proposition that two and two may be equal to five, or to five hundred. In other words, the production of real virtue, or holiness, in the breast of a moral agent by any extraneous power whatever, is one of those impossible conceits, those inherent absurdities, which lie beyond the sphere of light in which the divine omnipotence works, and has no existence except in the darkness of a distracted brain, or in the dim region of error in which the real nature of virtue or holiness has never been seen. It is absurd, we say, to suppose that the will of moral agents can be governed and controlled in any other way than by moral means. All physical power is here out of the question. God can no more govern the wills of men by physical power than he could govern the planets by the ten commandments. By physical power, in connection with infinite wisdom and goodness, a moral agent may be created, and endowed with all the attributes of such an agent. By physical power, a moral agent may be caused to glow with a *feeling* of love, and armed with an uncommon energy of will; but such effects, though produced by the power of God, are not the virtue of the moral agent in whom they are produced. This consists, not in the possession of moral powers or attributes, but in the free, voluntary, and obedient exercise of such powers. Hence, if infinite wisdom, and power, and goodness, should muster all the means and appliances in the universe, and bring them to bear, with united energy, on a single will, the effect produced would not be the virtue of the moral agent in whom it was produced. It would be the work of God, not the obedience of man, which must be free and voluntary, or not be at all. It might convert the man into a machine, but not the sinner into a saint. There is, and there can be, no such conversion without the free and voluntary co-operation of the created will itself.

The truth of this principle is indirectly, but clearly, recognized by Christ himself. Does he say, 'I am able to save unto the uttermost' all men? No. He says no such thing. He only says, on the contrary, 'I am able to save unto the utter-

most *all such as come unto me.*' That is to say, he cannot force them to be saved, but he can, and will, save *all such as come unto him*, or can be induced to come. It is his goodness, and not his power, which leads men to repentance. Hence, if they will not come unto him, he cannot save them. If all the glories of heaven, and all the terrors of hell, cannot induce them to listen to the voice of the Spirit pleading with them to come, then is their salvation impossible. For he cannot save them *whether they will or no.* 'O Jerusalem, Jerusalem,' he cries, 'how often would I have gathered thy children together, even as a hen gathereth her chickens under her wings, and ye would not. Behold, your house is left unto you desolate.' What mean these words of tender compassion, these tears of the Redeemer, wept over lost souls, if, by the mere word of his power, he might so easily have drawn them to his bosom and saved them from destruction? Are they not, indeed, words of deceit and tears of hypocrisy, if he might so easily have converted sinners, turning them from their sins to holiness of life, by one word of his divine power?

Again, it is written, What more could have been done to my vineyard that I have not done in it? But, lo! when I looked that it should bring forth grapes, brought it forth wild grapes.' Now, who will meet this solemn challenge of the Almighty, and boldly give the lie to his word? Who, in other words, will reply, O Lord, if thou hadst only chosen, thou mightest have done much more to thy vineyard than thou hast done. For, if thou hadst only spoken the word, thy vineyard had brought forth grapes, and not wild grapes. If thou hadst only spoken the word, all had been well with thy vineyard, and it had brought forth precious fruits like these in the Paradise of God. Is not the language of Revelation, then, the merest mockery of our misery and fallen estate, if, by the mere word of his power, God could have made his moral vineyard perfect in itself, and all-glorious in its fruits?

It is a remarkable fact that the conversion and salvation of a soul is nowhere recorded as one of the miracles of Christ, or of his Apostles. Though the grand object of his mission was the conversion and salvation of men, yet no one was ever con-

verted and saved by an exercise of his power. Now, why was this? Why did he work so many miracles to that end, the conversion of souls, and yet never achieve that end itself, directly and at once, by the word of his power? The answer is easy, if we suppose that such a thing is not the object of power; but it is utterly impossible if, by his power, he might easily have wrought the conversion of the will and the salvation of the soul. But he made no such attempt, and achieved no such conversion, because it is not a real thing, but only an absurd conceit, an impossible and contradictory notion, which was not within the province or dominion of power. Otherwise it had, no doubt, been performed by the power of Christ put forth directly for that purpose, a purpose for which so many stupendous miracles were performed by him in vain. He wept at the grave of his friend, and said: 'Lazarus, come forth; and Lazarus came forth, bound hand and foot.' But no such word did he ever speak over a dead soul, calling it from death to life, from a state of sin to one of holiness, purity, and joy. And the reason of this is, that such a transformation of a free agent, by mere power, is as impossible as it is to make two and two equal to five, or to invest a circle with the properties of a square, or *vice versa*. The whole Bible, indeed, proceeds on the supposition that the soul of man, the will of a free agent, cannot be converted by any extraneous power, or without its own free and voluntary coöperation. 'I am able,' says the Redeemer of the world, 'to save unto the uttermost *all* such as come,' or will come, 'unto me.' But he nowhere claims the power to save those who will not come unto him. Their house is left unto them desolate; and although he may, and does, weep tears of sincerest compassion over their irremediable loss and ruin, he makes not the absurd attempt to force their wills into a merely mechanical compliance with the holy will of God. On the contrary, having done all that is possible, in the very nature of things, for their conversion and salvation, he calls upon them to obey or to perish.

It is evident, then, both from reason and Revelation, that God neither possesses nor claims the power to convert and save the souls of men by an exercise or exertion of his omnipo-

tence. The very conception of such a power is an inherent and overwhelming absurdity, which has, in its consequences, filled the kingdom of God, the awful empire of Jehovah, with darkness, perplexity, and confusion. Banish that absurd conception, and a new era of light and glory will dawn on the science of theology. Banish that absurd conception, and all the stupendous clouds which have so long darkened the universe, and hung in dim eclipse about the throne of the Most High, will vanish in a flood of light infinitely more grand and beautiful than the material sun. Banish that absurd conception, and the dark enigmas, the awful problems, at which centuries have labored in vain, will admit of a clear, easy, and perfectly satisfactory solution. Banish that absurd conception, and men may, as with one heart, unite in the song of the angels, 'Glory to God in the highest.' But to make this application of the new idea, or principle, must be reserved for another article, in which, unless we are greatly mistaken, it will be seen rising above the horizon of human thought like a new sun in the heavens. There is no darkness in the depths, or in the heights, of theology which it will not chase away; there are no depths, and no heights, in the universal system of things which it will not gild with its glory, leaving the empyrean blue of mystery alone to set off and enhance the transcendent and ineffable beauty of the great truths of religion.

In the meantime, however, it should be borne in mind that a truth which, at first view, seems so incredible, and which, in its consequences, possesses so great a value, is not to be clearly seen and firmly grasped by a careless, negligent, inattentive, or indolent observer. If, on the contrary, we would make this truth our own, and hold it as a possession forever, we must give to it something of that close attention, patient thought, and protracted meditation which the infinite importance of the subject demands. Not otherwise has any great truth, capable of effecting a permanent change or revolution in the state of human knowledge, been made a possession of the human mind. When Copernicus, after the profound meditations of forty long years, broached the idea that the sun, and not the earth, is the centre of the celestial motions of

our system, he incurred the world's 'dread laugh.' But, after all, it was the world, and not Copernicus, who was the fool. Even Galileo, the greatest thinker then living, joined in the world's laugh, and, with a view to gratify his passion for merriment, went to hear an itinerant lecturer discuss the theory of Copernicus. He went to laugh, but he came away to think and to meditate. And it is unnecessary to inform our readers that he did more than any man of his day or generation to establish that sublime theory forever in the minds of men.

In like manner, when Kepler first proclaimed the doctrine that the heavenly bodies revolve, not in circles, but in ellipses, his theory was ridiculed by the great, unthinking world. But in the end his great discoveries, too, triumphed over all opposition, and they are now universally received — by a few as a matter of knowledge, by the great majority as a matter of faith only. No one at the present day, however, is so conceited in his ignorance as to reject the great discovery of Kepler, which, in his immortal work on the *Harmonies of the World*, is so clearly and unanswerably demonstrated.

One more illustration and we have done. From the beginning of the world to the age of Galileo, the first law of motion, without which the science of astronomy could never have been perfected, was concealed behind one of the natural illusions which are common to the human mind. It had seemed to all men in all ages, that if a body in motion were left to itself, it would gradually move more and more slowly, and finally come to a state of rest. It was by this natural illusion, resulting from the *apparent* evidence of the senses, that the first and most indispensable law of motion was veiled from the mind of man. But Galileo, with the penetrating gaze of his profoundly meditative mind, looked behind this veil, this natural illusion, and beheld the first great law of motion as it is in itself, invested with intuitive certainty in the light of its own self-evidence. Seeing, from the nature of matter, that as it has no power to move itself, so if it happened to be in a state of rest, it would there remain forever, unless it were put in motion by some extraneous force. Thus arose, in his mind,

the first branch of the first law of motion, as clear as the sun in the heavens. Again, reflecting on the nature of matter as purely passive, or as having no power over itself, he saw that if it were once set in motion by any extraneous impulse, it would continue to move forever, with a uniform velocity, and in the right line indicating the direction of the impulse, unless its direction should be changed, or its rate of motion altered, by some extraneous force. This new idea, this great fundamental conception, is usually called 'the law of inertia,' because it results, necessarily, from the *inertia* of matter, or the want of power either to cause or modify its own motion. Though never seen before, this new conception became sufficiently clear in the great mind of Galileo to upset the past, and to introduce a grand era of light into the science of physics.

In passing from the wonderful mind of Galileo into the still more wonderful mind of Newton, the law of *inertia* became a constituent element, a coördinate factor, in the mechanism of the material universe. Without its aid, indeed, the *Principia* of Newton, the most wonderful of all the productions of the human intellect, could never have been created. Without its aid, in other words, the most august temple ever erected by the genius of man to the glory of God could never have been conceived, much less constructed. As Plato wrote over the door of his academy, 'Let no man enter here who is ignorant of geometry,'¹ so is it written over the portals of the temple erected by Newton to the glory of God, 'Let no man enter here who is ignorant of motion.' No man can, indeed, enter into the inner sanctuary of that august and awful temple, or enjoy the sublime privileges of a votary, without a clear and fixed idea of '*the first law of motion.*' In like manner, no man can enter into the still more sublime system of the

1 Sir William Hamilton pronounces this celebrated inscription at the entrance of Plato's academy 'a modern fiction.' Mr. Archer Butler, in his learned Lectures, contests the authority of Sir William, and gives us good reason to believe it is not 'a modern fiction,' but an ancient fact. But whether these words were inscribed over the entrance to the academy or not, it is certain that they embody a great truth, which serves the purpose of our illustration.

spiritual universe, or enjoy the excellent privileges of a *rational* worship, with a clear and fixed idea of *the first law of action*. That is to say, without a clear, precise, and fixed idea of the nature of moral action, or holiness, and its relation to all extraneous power, whether human or divine. The law of motion, springing from the *passivity* of matter, is the key to the system of the material universe; and, in like manner, the law of action, growing out of the *activity* of mind, is the key to the system of the spiritual universe. Matter only moves as it is moved *ab extra*. But mind is self-active, or it does not act at all. Necessitated motion is the only kind of motion that exists in nature, or that is conceivable by the mind of man. But a necessitated volition is a contradiction in terms. It is, at one and the same time, both a *free* and a *forced* act. It is, in other words, a self-active will, which, like inert, passive matter, only moves as it is moved *ab extra*. It is the centre, and the sum, of all metaphysical contradictions and absurdities, which has darkened, and still darkens, all things in heaven and earth..

But whosoever would possess this golden key to the inner sanctuary of the glorious temple of the spiritual universe, must make it *his own* by his own patient meditations. It was a fundamental maxim with Galileo, that no one man can teach another, but can only help him to teach himself. It was the same sentiment which led Socrates to compare himself to a midwife, who could not create thoughts for other men, but could only help them to develop and deliver their own thoughts. Hence, he eschewed the proud title of teacher, and assumed the humble office of midwife to the intellectual offspring of other minds. He only wished them to be co-workers with him, as he was with them, in promoting the growth and development of the genius of truth, which God himself had planted in their minds.

We must all meditate, indeed, and pray without ceasing, if we would bring our thoughts to coincide with the thoughts of God, and in his light see light, instead of wandering amid the dark thoughts and systems of men. On no other condition can we ever enjoy 'the glorious liberty of the sons of God.'

It is the most delightful reflection which accompanies the student of the mathematics, that his thoughts do, in reality, coincide with the thoughts of God. He feels, as he follows the laws and the demonstrations of physical astronomy, that he is treading, with adoring wonder, in the footsteps of Deity. But in the study of mental and moral science this sublime consolation deserts him. Why? Because in the study of mind, which is infinitely superior to the study of matter, he allows himself to become the sport of prejudice and passion. Because, in this most important study, he allows the horror of a painful suspense of judgment to precipitate him into all sorts of half-formed truths and preconceived notions. If, on the contrary, he would only acquire the habit of patient and protracted thought, which stands in fixed and immovable meditation, until the clear light of truth appears, he may see the glory of God reflected in the universe of mind, with far greater effulgence and beauty than it is in the universe of matter. It is for this reason that we have repeated, and shall continue to repeat, as well as to illustrate and prove, the great truth, that no mere power, however great, can turn the Will from sin, and cause it to become holy as God is holy, without its own free volition and coöperation. If the pious reader starts at this *apparent* paradox, and trembles as in the presence of a deadly heresy, he will only do as we ourselves did when it first occurred to our meditations. But if, in his impatience, he casts this apparent paradox from him, no more to be patiently considered, we can only warn him that he has thrown away the golden secret of the world, that he has lost the key to the holy of holies of the inner sanctuary of the great temple of Truth. We can only warn him, that he has despised the only clue out of the labyrinth of error, darkness, and confusion, in which the old *apparent* truism has involved the past, into the open light of God's infinite beneficence and love.

We can only warn him! We can also show, unless we are greatly mistaken, that, in the solution of problems, the *new* paradox possesses an unspeakable advantage over the *old* truism. But this trial of the two principles must be reserved

for another article, in which it will be shown, as we humbly trust, that the *old* truism involves a hundred great questions relating to God and his Christ, in profound enigmas, as dark as night, while the *new* paradox affords a solution of them as clear and satisfactory as the sun. The reader will then have an opportunity to judge for himself. We only beg him, in the meantime, to think for himself patiently, and to meditate profoundly, with a single eye to the love of truth and the glory of God. Otherwise his final decision, whatever it may be, will be of little value to others and of little service to himself.

- ART. VII.—1. *Journal of the Royal Geographical Society*. Vols. 40 and 41, for 1870 and 1871. London.
2. *Papers on the Northern and Eastern Extension of the Gulf Stream*. By Dr. A. Petermann, Gotha, Germany. Translated and republished by the U. S. Hydrographic Office, Commodore R. H. Wyman, Chief. Washington, D. C. *The Edinburgh Review*. No. cclxxvi. April, 1872.
3. *Thermal Paths to the Pole*. 2d edition. By Silas Bent. St. Louis, Missouri.
4. *Paper read by Dr. William B. Carpenter before the Royal Institution (1871), and Report on Deep Sea Researches, Nature*, April, 1871. London.

Some one has said that ‘*the sea is the temple of contemplation*.’ It is, however, to be regretted that, while affording the grandest displays of the Creator’s power on our globe, and the noblest fields for scientific research, its majestic currents, its mysterious caverns, its fauna and its flora have been made too much the theme of speculation, and too little the subject of severe and careful investigation. The great discovery of the circulation of blood in the higher animals, announced by

Harvey in 1619, is not of greater moment to medicine than is the true theory of oceanic circulation to terrestrial physics. Geologists tell us that the earth has been 'sculptured by water'; and this fact may give some idea of the mighty agency and wonderful climatic influence of the larger water-masses which are ceaselessly travelling over the earth from pole to pole. To determine the law of their movement, and the limit of their individual, geographic channels, in the bed of the ocean, has occupied the human mind, according to Humboldt, since the time of Peter Martyr de Auhiera and Sir Humphrey Gilbert, in the sixteenth century; that is to say, ever since it was found that the sea was not in the custody of a fickle and lawless power, and that the authority of Neptune was one of the most unfortunate of classic myths. At the present time the sciences of navigation, meteorology, and biology, are patiently waiting, for their further development, upon the solution of the great oceanic problem. Little by little light has been thrown upon it, but it is still obscure, and the cause of popular and practical science demands its earnest prosecution.

In this discussion we are at once drawn toward the Atlantic, whose currents and meteorology are better known than those of any other ocean, and where we at once behold the greatest of all explored oceanic phenomena, the Gulf Stream.

The discussion of the Gulf Stream has very lately excited, and is still exciting, more popular and scientific interest, all over Europe and America, than any other physical question that can be named, and we propose now to examine the *facts* which elucidate its circulation.

The theories which, from time to time, have been put forth in explanation of its mysteries may be briefly summarized. Without going back to the labors of Dr. Franklin, or Capt. M. F. Maury, or Sir John Herschel, it will be sufficient to mention :

First, the views of Mr. A. G. Findlay, of England, as formally propounded in 1869, before the Royal Geographical Society of London.

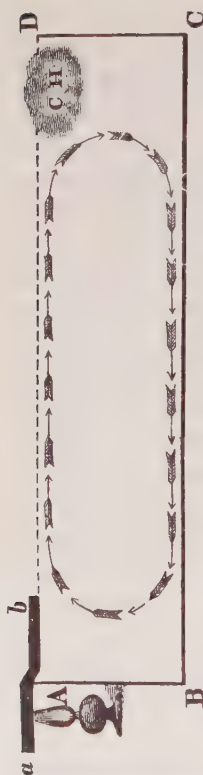
Second, the beautiful hypothesis of Prof. William B. Carpenter, of England, now being so eloquently pleaded by himself in all the popular discussions, and in the popular newspapers of his country.

Lastly, the *eclectic* oceanic theory of Capt. Silas Bent, which has apparently become the favorite in America, and was once noticed in these pages.

The first mentioned of these differing interpretations of the Gulf Stream maintains that 'the Gulf Stream proper, discharging through the Florida Straits, has not sufficient width and depth to advance to the shores of Europe, or affect its climate, as with its diminishing velocity it would require one or two years to accomplish that distance, during which time it would part with its heat; and, further, that the Gulf Stream on reaching Newfoundland is totally annihilated.'

The hypothesis of Dr. Carpenter, proposed as a substitute for this, or rather as an *addition* to it, is very simple and easily explained by its able author and advocate. To account for the phenomenon of a warm current running from the Equator to the Arctic ocean, and a return submarine cold current, observed by Dr. Carpenter is his own deep sea researches, the eminent explorer and physicist assigns a law of general circulation.

The fact of an arterial circulation of the sea, and the interchange of places by currents of polar and equatorial waters, had long been a matter of theoretical conjecture. Dr. Carpenter's soundings in the North Atlantic, year before last, removed the great deduction from the territory of speculation into that of certainty. By the following ingenious and yet simple experiment, made in his original lecture before the Royal Society, he illustrates his meaning. In the long glass trough represented in the diagram here given, as drawn by himself, the experimenter placed a quantity of water nearly sufficient to fill it, and, in imitation of the two great forces of an equatorial sun and arctic or polar refrigeration, he subjected the fluid in the ends of the trough to simultaneous heat and cold. This miniature reproduction, in the laboratory, of the great nat-



tural agents, was effected by a metallic bar (B p), heated at one end by a spirit lamp (A), and communicating with the equatorial end of the trough, while, at the same time, a block of ice (C H) was immersed in the other end. The two agents immediately gave rise to a beautiful circulation, as indicated by the direction of the arrows in the cut, and was vividly shown to the audience by using a few drops of blue and red coloring matter. On the strength of his observations, and in the line of argument indicated by his simple experiment, Dr. Carpenter thus propounds a doctrine of general oceanic *vertical* circulation, which is substantially that of Pouillet and Humboldt expanded and made more precise, by demonstrating the action of polar cold as a *primum mobile*. This doctrine, as we have just said, is nothing new. But, if the true one in its general principle, it takes no notice of the particular and individual currents of the sea — to which mariners and physical geographers have given distinct names — seeking

to explain away the extension and meteorological agency of the particular current, by losing it in the general circulation. It may be said to have at least one strong point for its self-protection, viz., that cloudy vagueness and intangibility which defy both scrutiny and attack. We shall see that, while its author demands a circulation for the sea, he closes or ties up the great oceanic arteries, through which alone circulation is possible.

The views of Captain Bent, which have been recently reiterated and fortified in a small pamphlet,¹ assume all that Dr. Carpenter has set forth, and in reality had anticipated his discoveries by several years. According to the former distinguished American hydrographer, the Gulf Stream interpen-

1 'Thermal Paths to the Pole,' published by R. P. Studley & Co., St. Louis.

trates the Polar Basin, and affords the mariner the only true or possible pathway within its mysterious periphery. He asserts, as we shall soon see, with great force of reason, that the climate of northwestern Europe is indebted to this warm ocean current for its mildness, and that if the Isthmus of Darien could be submerged or removed, the warm water would be carried westwardly into the Pacific ocean, and England be reduced to the climatic condition of Canada and Labrador, or to what is but little better than a frozen wilderness.

The current-system of Captain Bent is, however, repudiated, it should here be said, by Dr. Carpenter, who, with Mr. Findlay, denies any climatic influence to the Gulf Stream on British shores, and especially denies the last mentioned deduction of the Bent theory, of the great dependence of his country upon the warm ocean stream, and the detriment that would ensue if the removal of Isthmian America were effected.

The reasonings of Mr. Findlay have been repeated in America, but with a far more attenuated force than their author originally gave them, by Dr. J. J. Hayes, and others. The last named gentleman, in a recent paper on 'The Real Gulf Stream,' claims that 'it does not reach Britain; but even where it does reach, and is best known and most frequently traversed, its waters have no appreciable effect upon the atmosphere, even in passing over it.' And again: 'The Gulf Stream has nothing more to do with the climate of the North Atlantic region than the rats of the Lion Brewery (in Brooklyn) have to do with the climate of Manhattan Island, or a boiling tea kettle in Union Square with the temperature of New York.' These assertions, with many similar ones, have not long since been dignified by no less an authority than the *Edinburgh Review*, as the partial basis for an extensive article, which, however, is, to borrow the words of Dr. Petermann, 'a very deteriorated echo of Mr. Findlay.' We shall test all these views by the latest observations made in the Atlantic ocean.

The great current-producing agencies of the ocean are two. The winds must exercise a powerful influence, and where they are regular and perennial their effects are far-reaching beneath

the surface. It is impossible to notice the direction of the sea currents, and the grander aerial currents, and avoid the conclusion that the latter, by perpetually *rasping* over the deep, largely control the arterial circulation. The power of the winds was strongly illustrated in the historic struggle of the Netherlands, when the Dutch seamen rode within the lines of the Spanish besiegers on the swollen waters of the German ocean, driven and piled upon the shores by westerly winds. Nautical history records a West Indian storm so violent that it forced the Gulf Stream back toward its fountains and heaped it upon the Florida Keys to the astounding height of thirty feet, whence it afterward rushed with torrential velocity. So, too, in the harbor of Bombay, and on the western coasts of India, when the steady southwest monsoon sets in, the waters of the Indian ocean encroaches far inland, and partially submerges trees and houses.

The southwest winds sweep northward in the Atlantic with varying but great velocity overhead, and as an upper current from the Equator to the parallel of 40° , when they begin to descend and exert a powerful 'drag' upon the underlying strata of air. As they continually move upon converging meridians, and their channel-ways in the lofty regions above are ever growing narrower and narrower, their violence is concentrated.

In addition to the winds, we have also the difference of specific gravity of polar and equatorial water as an ever-active and potential force, perpetuating the flow and reflow of the liquid masses of the sea. Sir John Herschel insists 'there is no refusing to admit that an oceanic circulation of some sort must arise from mere heat and cold and evaporation as *veræ causæ*.' If we must conclude that these current-making forces are less marked and less manifest than those of the atmosphere, and lack the rude vigor of the blast, they may not unfitly be compared to the silent but stupendous tidal force which uplifts the majestic surface of the sea, and sustains and bears forward, with Atlean serenity and ease, a wave heavier than the mountain; and it never relaxes, never tires. It would not be difficult to estimate these forces mathematically and deduce

a result. But we prefer to follow the guidance of observation as a more pleasing and also a surer path.

Although the easterly Trade Winds play an important part in giving initial impulse to the Gulf Stream, as Franklin sagaciously pointed out, and has lately been rigidly demonstrated by an eminent Swedish mathematician, Mr. Colding, yet, in so far as they now touch our subject, they are quickly explained. Between the Cape of Good Hope and the Equator the southeast Trades put forth their greatest strength, but, with no deference to the mathematical division of the globe, they overleap the line, and force their way fully up to the parallel of 10° north. Here they are met by their feebler congeners of our hemisphere, the famous northeast Trades of Columbus. The great discoverer first encountered them on the 14th of September, just after leaving the Canaries. From these latitudes, sailing to the westward was so easy, and the sea so smooth, the Spanish seamen called it *el golfo de las damas* ('the ladies' sea'), because a girl might manage the helm. In nearly the same parallels on the Pacific, navigation was so steady that old Varenus, said the sailor, on leaving Acapulco, might set his sails and go to sleep in the assurance of making the Philippine Islands.

It is unnecessary to speak of the origin of the Gulf Stream under the impact of these easterly winds, which move in an eternal band around the torrid zone of the globe. The formation of the great artery of the Atlantic in the Gulf of Mexico, as the medium for equatorial waters seeking an interchange with colder and heavier water of higher latitudes, is well known. Its movement off our seaboard is well known. Its passage to the vicinity of Newfoundland is undisputed; and only a few years ago Admiral Milne, sailing out of the harbor of Halifax, found the temperatures of 40° and 70° , respectively, at the stern and bow of his ship. We are, therefore, concerned to trace the extension of the Gulf Stream beyond Newfoundland.

Year before last, a shrewd and learned officer of the Swedish Navy, Admiral C. Irminger, communicated to the Geographical Society of London a summary of his extended investiga-

tions on the surface-temperatures of the greater portion of the North Atlantic lying between his own country and the shores of North America. The nicely-charted results of his labors revealed the fact of a much greater mass of heated water in these high latitudes than had ever been supposed, and urged on the inquiries of Dr. Petermann to ascertain new facts. The Swedish explorer gave it as his conclusion, that 'the many thousands of square miles in the North Atlantic which thus are found warmed (he spoke of the ocean 'lying between the Shetland Islands and Greenland') I think must be ascribed to the drift to the north of the great, wide Atlantic from about 40° N. lat., and as a branch of the Gulf Stream following the drift of the Atlantic in a northerly direction. I think it highly probable that *only the warmest streaks*, which are always crossed between Fair Island and Greenland, can be admitted to be branches of, or connected with, the Gulf Stream itself, which, by constantly succeeding confluence of the warmer water from the stream, in this manner maintains a higher temperature than the surrounding ocean' (Jour. of Roy. Geog. Soc. of London, 1870, p. 446).

Admiral Irminger immediately adds: 'The above-mentioned warm streaks may be followed much farther to the north; and as for those which find their way between Iceland and Norway, they are met with even up in the Icy Sea, which, according to my opinion, is proved by the discoveries of Parry, Scoresby, and so many other distinguished navigators.'

But, what is more to the point than all this, the same authority states: 'The observations made elucidate, however, so much: that the warmer streaks are found on every voyage, and that usually *two* are to be found, one of which is met with somewhat to the west of Fair Island (about in N. lat. 59° 28' and 1° 55' W. of Greenwich); whereas the other is considerably more to the west in the ocean, and sometimes *even more westerly than the meridian of the southwesternmost land in Iceland, Cape Reikianaes, in 22° 50' W. of Greenwich!*' (pp. 445 and 446 same paper.) We have italicized the last few words because they show the thermal character of the Atlantic to the

N. E. of Newfoundland, and prove a Gulf Stream there where its existence has been denied.

The shrewd and sagacious Admiral says: 'It seems to me that probability speaks for admitting that the warmer streaks noted in the Northern Atlantic, which are crossed on every voyage from Fair Island to Greenland, are branches of the Gulf Stream. *The westernmost warmer streak connects undoubtedly with that part of the Gulf Stream which passes nearest the banks of Newfoundland*' (italics ours) (p. 488, Ante).

Unwittingly, perhaps, this writer, in thus describing his extended thermometric surface observations, has really forever set in a clear light the existence of the Gulf Stream beyond Newfoundland, and north and northeast of it. But, in addition to Admiral Irminger's conclusive results, deduced from twenty years' observations — conclusive of the continuation of the Gulf Stream from Newfoundland to Iceland, and to the sea between Iceland and the Shetland Islands — we have cumulative evidence of the same nature.

On board the steamships of the Liverpool and Montreal Line the temperatures of the sea are and have long been most carefully observed; from Liverpool to the 40th degree West of Greenwich, the experimental test with the thermometer is made once every day at 12 o'clock M., and from 40° N. lat. to the St. Lawrence every hour, or twenty-four times a day. The Glasgow and Montreal Line of steamships have also taken thermal observations six times daily during their trips. The tables in which their temperature discoveries are accurately recorded have been given to Dr. Petermann, who charted them on the beautiful charts first published in his 'Mittheilungen,' and translated in this country by Mr. E. R. Knorr, and republished for this Government by Captain Wyman, the Chief of the Hydrographic Office at Washington. The isothermal lines for July, drawn by Dr. Petermann from the steamship reports and records, show that in the very face of the fierce Polar current rushing down off the coast of Labrador, and bounding over the northeastern coast of Newfoundland, the Gulf Stream holds its own, and carries the isotherm

of 50° Fahr. from the Grand Bank to within two hundred miles of Cape Farewell, the southernmost cape of Greenland, and thence to the sea between Greenland and Iceland, while it floods all the sea between Iceland and Newfoundland on the southwest, and Ireland and Scotland on the southeast, with water at least 55° Fahr., and near Scotland about 58° or 60° . Even in January the isotherm, from the steamship records, for the region lying between the Grand Bank of Newfoundland and the intersection of 20° W. long. and 55° N. lat. (a little West of Ireland), is from 48° to 50° Fahr., the temperature of the Mediterranean near Messina. Or, to give Dr. Petermann's own reading of the figures, 'the means represented in the table show that, east of the cold water of the Newfoundland Banks, there is a *bed of warm water 200 miles in width, with a temperature of 57° in January and 61° in August*. Between this bed and the Irish coast the temperature is more uniform; there is, however, in the middle of this distance, in about longitude 25° W. of Greenwich, a belt of water of a *decidedly higher temperature*.' (See p. 238 'Northern and Eastern Extension of the Gulf Stream,' translated and republished by Hydrographic Office.)

We have also Captain Inglefield's observations, when sent out in 1852 in search of Sir John Franklin. These observations were taken in sailing from Scotland to Cape Farewell and between the parallels of 58° and 61° . Inglefield carried a steady surface temperature with him (from Woolwich almost to Cape Farewell) of from 52° to 56° Fahr., which shows the presence of the Gulf Stream northeast of Newfoundland and extending to the British Isles, and is in exact harmony with Admiral Irmingier's log-books, etc., and those of the Montreal, Glasgow, and Liverpool steamships.

That the Gulf Stream runs east and north of Newfoundland, and that a streak of it occasionally washes the western coast of Iceland, and curves round thence to the northwest and courses near to Greenland, no geographer doubts. On the south coast of Iceland, Torrell, of the Swedish expedition, found pieces of drift-wood, chiefly mahogany; and the mercury in the thermometer has the annual mean on the southwest coast

of $41^{\circ} .9$ Fahr. Gulf-weed, cocoa-nuts, and tropical produce, it is well known, are frequently picked up on the west coast of Iceland, and southwest, more abundantly, in the sea south of Cape Farewell, Greenland; and there can scarcely be a reasonable doubt that the celebrated drifted mahogany-wood which a few years ago furnished the Danish governor's dining table on the west coast of Greenland was carried thither by one of the warm streaks of Gulf-Stream water which penetrate these seas.

Dr. Henderson, an Icelandic authority quoted by Petermann, says: 'I must confess that I really shuddered when thinking of living through a winter in Iceland; how greatly was I astonished when I found the temperature not only higher than in Denmark, where I had been during the preceding winter, but also by no means more severe than the mildest winter which I had ever known in Denmark and Sweden.'

According to Dr. Mühry, of Germany, the lowest temperature of the air experienced in Reikiavik, Iceland, during thirteen years was only $+ 3.9$. At New York and Washington the lowest observed temperature is $- 4^{\circ}$ Fahr. for five years, according to the Smithsonian Reports from 1854 to 1859, which, for minima-temperature, gives a preference to Reikiavik of nearly 8 degrees Fahr.! The mean January temperature for Iceland is $34^{\circ} .7$ above zero; and so rare is intense cold, that only the best saddle horses are stabled in winter (other cattle are left in the open air all winter); and so marked an event is the congelation of the sea around the island, that the annals of Iceland state, in reference to the year 1348, that 'the winter was so severe that the sea was frozen around the island, so that it was possible to ride from one neck of land to another.'

I have spoken of the remarkable fact of Icelandic history that in 1348 'the winter was so severe that the sea was frozen around the island.' But this exceptional instance has its historical offsets in the latitudes far to the south of Iceland. Fourteen times in the last eight hundred years has the Thames been frozen over. Fairs have occasionally been held, booths built, and oxen roasted on its solid surface. Since 1294 the

Baltic Sea has been eight times frozen over, once so firmly that Charles X. led his whole army over it from Holstein to Denmark. Twice in the history of Flanders wine has been cut with hatchets and sold by cubic measure. In 1708 the ice in the harbor of Copenhagen was twenty-seven inches thick; the thickest ice known on the lakes of Iceland has been eighteen or twenty inches. In 1794, Pichegru's army encamped on the ice of Holland. The Zuyder Zee, the Hellespont, the harbors of Leghorn, Marseilles, and Genoa, the Rhine, the Danube, the Po have at times been locked in ice. It is not improbable that the solitary ice-girth formed around Iceland in 1348 was composed of ices that had floated down from Greenland.

As to the well-known theory of Mr. Findlay, of England, that the Gulf Stream is lost at Newfoundland, we have all the preceding evidence to the contrary, and much beside.

The soundings and temperatures taken in the Gulf Stream off Newfoundland by Commander W. Chinmo, R. N., in 1868, would alone rebut all that Mr. Findlay says. 'Sailing from Halifax, in Nova Scotia, on the 1st of July, the ship passed from water whose surface temperature was 51° to that of 61° in less than an hour, shortly afterward to 64° , showing that the Gulf Stream water had been reached. At dawn, July 1, we saw an old Labrador friend, a huge iceberg, having a warm bath in a temperature of 62° , double that of its own. Although it was still 150 feet high, and nearly 400 feet immersed, it was quickly and perceptibly undermining, decomposing, splitting with loud reports, and floating away with the easterly current. The heat in the Gulf Stream (thirty miles south of the Grand Bank) was found at times very oppressive, and reminded us all of the climate of Trinidad in the wet season.' Such is the testimony of this distinguished English naval explorer in 1868. It was almost in the same place alluded to by Commander Chinmo that Admiral Milne, in 1861, found the temperature 'at the stern of his flagship 40° and at the bow 70° !'

Nor was this mass of warm water off the Newfoundland coast and northeastward a merely superficial body. Commander Chinmo showed that, 'by the temperatures obtained from

actual observation at 300, 500, and 1,000 fathoms, the waters were in all cases warmer than the corresponding depths north of the Gulf Stream !'

Now, can it be supposed that such a mass of warm water in this part of the North Atlantic could lose its thermal influence in the Newfoundland latitudes? Far from it. On the contrary, to borrow Dr. Petermann's words, although the Gulf Stream 'comes in violent collision here with the Polar stream of Labrador, the former is by no means annihilated, as Mr. Findlay concludes; on the contrary, it sallies forth intact from this conflict.' To suppose it lost at this juncture is to do violence to the law of the immiscibility of fluids of different temperatures and salinity, and to ignore the forces which have brought the stream from the Gulf to Newfoundland.

If it is asked how the Gulf Stream or any ocean current can impart its heat to continental shores along which it runs, I answer, not to any great extent by direct radiation from the hot current, for this radiation would not be horizontal, but vertical. Direct radiation from the sea horizontally would not greatly affect the temperature of the land, because the rays of heat would not strike the land directly, but obliquely, and be felt only as the rays of a winter sun in high latitudes of the globe. Nature is furnished, however, with a beautiful adaptation for the transportation of the current's heat, and for its radiation vertically on the land.

The laws of thermo-dynamics teach us that there must be continually generated over every warm current like the Gulf Stream, a stratum of aqueous vapor—the exhalation from below. The evaporation from the hot water being lighter than dry air, ascends, and on reaching a given height in the clouds grows so cool as to begin the process of slow condensation. It now also begins to emit its latent heat stored up in the vesicles of vapor, and with the liberation of the once latent, now sensible, heat, vertical radiation begins in the upper regions of the air and the heat is thrown down directly on the land, as from the blazing orb of the summer sun in the tropics, directly overhead. The enormous quantities of heat thus formed by condensation aloft may hardly be conceived of, even when we

remember that the amount of heat required to condense a quantity of water which would cover an area of 100 square miles would equal that produced by the combustion of about 500,000 tons of coal. As Mr. Proctor puts it, 'all the coal which could be raised from the English coal-mines in thousands of years could not give out heat enough to produce England's rain-supply for a single year.' The heat necessary for this rain supply is, we contend, derived from the Gulf Stream as latent heat, stored away in the immense evaporation of Gulf-Stream water between America and Ireland, and thence borne by southwest winds over the land, until, at the moment of condensation, it becomes sensible heat.

During Mr. James Glaisher's aeronautic ascents over England, a fact was brought to light which is very suggestive. He frequently found, a few thousand feet above the earth, a deep stratum of excessively moist air. In his ascent at Wolverhampton, in 1862, he found the layer of soaking cloud and wet fog, or 'a warm current of air' 9,000 feet in thickness, and on descending after a rise of quite seven miles, he found the same warm current at the same depth. In the excursion from Wolverton in 1863, at the height of 23,000 feet, the aeronaut just got beyond the upper surface of the cloud and moisture stratum, and heard, at the distance of four and a quarter miles from the earth, the noise of a railway train. Rain fell at a height of 15,000 feet, and a snow-storm 5,000 feet in thickness was encountered. In the ascent over London by night, October 2d, 1865, this remarkable result was discovered, that '*on every occasion the highest temperature was met with at the highest point,*' and 'the temperature of the air was the lowest on the ground, and increased with elevation to the height of 2,000 feet, the highest point attained, and on the descent it decreased with decrease of elevation, and was lowest on reaching the ground' (Glaisher's *Travels in the Air*, pp. 80-83), showing just what we have said must take place — *i. e.*, the liberation of enormous quantities of heat in the upper air, to be *radiated vertically* downward on the earth. But the most startling fact was reported from the ascent of January 12, 1864: '*A warm current of air* was met with of more than

3,000 feet in thickness, moving from the S. W.; that is to say, in the direction of the Gulf Stream. This was the first time a stream of air of higher temperature than on the earth had been encountered.' The difference was $3\frac{1}{2}^{\circ}$, and this warmer air was met with 1,300 feet above the earth. 'Without doubting,' adds Mr. Glaisher, 'the influence of this natural agent (the Gulf Stream), it is necessary to add the effect of a parallel atmospheric current to the oceanic current coming from the same regions — a true aerial Gulf Stream' (*Travels in the Air*, p. 86).

Of the existence of such an aerial Gulf Stream there can be no doubt; and it is physically probable, in the highest degree, that it derives its humidity principally from the true aqueous Gulf Stream beneath. We know that such a phenomenon exists on our Pacific coasts in a ceaselessly-moving stratum of southwesterly wind. This stratum sweeps over Oregon and Washington Territory and the Rocky Mountains in Montana and Idaho Territories, causing in those northern sections of the United States the famous 'Fertile Belt,' or 'Mild Winter Belt,' where the buffalo, driven from the more southerly, but more elevated and frigid climates, finds a comparatively snowless retreat and an abundant pasturage, and where domestic cattle thrive all the winter without shelter.

If Glaisher's 'aerial Gulf Stream' was, as we suppose, due in part to the evaporation from the ocean current beneath, that current must have been near the English coast, else the air would have parted with its heat and vapor before reaching the aerial regions in which the English aeronaut encountered it.

As against the hypothesis of Findlay, it seems clear, then, that the British climate is due to something more than the westerly winds. Dr. Carpenter says this 'something more' is *not* the Gulf Stream, but a general flow of tropical water moving northward in obedience to his law. But one might contend that, save on a very small scale, such a flow on the *eastern* side of the tropical Atlantic basin is forbidden by the N. E. Trade Winds. As fast as the surface-water of the equatorial and tropical Atlantic is heated by the sun it is swept westward

in the great equatorial current toward the West Indies and the Mexican Gulf, and it is only the surface-water that becomes so heated. To use Herschel's figure, the Trade Winds propel the particles of heated water before them as the stick of the billiard-player propels the billiard-balls across the table. Were Isthmian America cut away or submerged beneath the waves of the sea *all the warm water of the North Atlantic (i. e., the Gulf Stream) would be drifted through the Isthmian Channel into the Pacific.* The steady Trades cannot, it is true, utterly nullify the Carpenter law of equilibrium, but they can and do so modify the motion.

To suppose the Gulf Stream owes its existence to the Trades is correct only so far as those winds propel the superheated water into the Gulf. The 'heaping up' of water in the Gulf, no doubt, gives initial force and velocity to the forth-issuing current, as Franklin sagaciously supposed, and Mr. Colding has very lately proved. If all other agencies were utterly neutralized and put in absolute abeyance in the Gulf of Mexico itself, the Gulf waters would, notwithstanding, obey the force due to difference of specific gravity, and, solely under the influence of this Carpenter-law, issue in majestic volume from the Strait of Florida and move on their Pole-bound course. This force due to difference of specific weight is as really felt, in its current-producing might, off the Newfoundland banks as off the Bahama banks. It must prevail in the highest, as well as in the lowest, latitude till *thermometric equilibrium is restored*, which evidently is not the case at Newfoundland, where hot and icy waters commingle, producing the densest fogs. It is idle to say that the current is lost in the ocean as the Mississippi is lost in the Gulf of Mexico. For when the 'Father of Waters' enters its receptacle below New Orleans, there is nothing but its momentum to carry it onward. The hydrostatic law which caused it to 'run down-hill' has been satisfied. In the case of the Gulf Stream, even off the coast of Iceland, the moving force is still in full play upon every particle of its waters.

We have spoken of the wonderful power of the Trade Winds acting on 'the uppermost strata of the tropical ocean'—the

only strata, Dr. Carpenter says, influenced by the sun's heat—to propel them, by the *vis a tergo*, westward against the American isthmus. Dr. Carpenter (as well as Capt. M. F. Maury) maintains that currents produced by the winds cannot extend to any great depth. I cannot better advert to this position than by quoting from a pamphlet kindly sent me by Mr. James Croll, of England, in which he remarks: 'It is certainly true that sudden commotions produced by storms do not extend to any great depths. Neither will winds of short continuance produce currents extending far below the surface. But prevailing winds which can produce such immense surface flows as that of the great equatorial current of the globe and the Gulf Stream, which follow definite directions, must communicate their motion to great depths, unless water be frictionless, a thing which it is not. Suppose the upper layer of the ocean be forced on by the direct action of the winds, with a constant velocity of say four miles an hour, the layer immediately below will be dragged along with a constant velocity somewhat less than four miles. The layer immediately below the second layer will, in time, be dragged along with a constant velocity somewhat less than the one above it. The same will take place in regard to each succeeding layer.' But it never seems to have occurred to the gentlemen who deny any climatic agency in the British Isles to the proximity of the Gulf Stream, and award this agency exclusively to the southwest winds, or anti-trades, that *these very anti-trades* or *southwest winds* assist (with the down-rushing polar currents off Newfoundland, the rotary influence of the globe, and other causes,) *in forcing the Gulf Stream over to the British Isles*. The southwest anti-trades are powerful winds, known as 'the passage winds,' and to vessels moving against them as 'head winds,' almost irresistible, except by steam; and even Cunard steamers are loth to encounter them. Their latitudes are called by sailors 'the roaring forties,' as they themselves are known as the '*brave west winds*, whilst the easterly trade winds are known as the '*gentle trades*.' This is an important fact, and shows us what Mr. Findlay and his friends have never suspected. Only in the spring of last year, though they suffered no acci-

dent, the powerful Royal Mail Steamship *Algeria* was twenty days in crossing from Liverpool to New York, and the steamer *Concordia* thirty-eight days in making the same passage against the fierce southwest or anti-trade winds.

Thus we see as long as the warm surface water was in the tropics it was propelled westward by the trade winds, according to the famous remark of Columbus, entered in the diary of his third voyage to the New World, when in the tropics near the meridian of Teneriffe: 'I regard it as proved that the waters of the sea move from east to west, as do the heavens (*con los cielos*).' But once outside or north of the tropics and the tropical calm-belt, the movement is reversed. The anti-trade (southwest) winds begin their 'rasping,' 'dragging' action, and as they are nearly perennial and more powerful than the trades, they control the eastwardly course of the Gulf Stream toward Great Britain and Norway. *Even without specific gravity* it is thus easy to see how the stream might be conveyed by this 'drag of constant winds, first, into the Gulf of Mexico, and, afterward, from off Cape Hatteras and Newfoundland to the high latitudes of northern Europe.

The meteorologic and climatic agency of the Gulf Stream extension is certainly felt on the coast of western Europe, especially when taken in connection with the westerly winds 'The Gulf Stream,' says Tyndall, 'entirely abolishes the difference of temperature due to the difference of latitude of north and south Britain, so that if we walk from the Channel to the Shetland Islands in January we encounter everywhere the same temperature. The isothermal line runs north and south. The harbor of Hamerfest, in Norway (73' N.), derives great value from the fact that it is clear of ice all the year round. This is due to the Gulf Stream, which sweeps around the North Cape, and so modifies the climate there that at some places, by proceeding northward, you enter a warmer region.' (Heat as a Mode of Motion, p. 97.) But the well-known effects of the Gulf Stream on western Europe have their counterpart and analogy in all the great currents of the ocean. The most extensive and remarkable of these is the Kuro Siwo or 'Black Stream of Japan,' as it was called by Capt. Silas Bent, its first

discoverer and explorer. The equatorial current of the Pacific is wider and grander even than that of the Atlantic. It is the parent stream out of which so many other bodies of water obtain their volume. It moves, as do all such currents of the ocean, on the line of a great circle, and this circle intersects the Equator at an acute angle of only a few degrees. It sweeps to the westward in 'uninterrupted grandeur,' as one expresses it, around three-eighths of the circumference of the globe, until diverted by the continent of Asia, and split into innumerable streams by the Polynesian Islands. Reaching the Ladrões, it imparts a much warmer climate than has been given to the Sandwich or Marquesas. The Philippines are made oppressively hot, even in winter, and one familiar with it has said: 'The fervor increases as we reach Malaoca, is all aglow in India, and becomes stifling in its intensity as these equatorial waters, after travelling fifteen thousand miles, and being fully three hundred days under a vertical sun, are thrown against the eastern shores of Africa.' This equatorial current is as broad as the Torrid Zone, and out of it comes the Kuro Siwo.

The latter possesses a temperature more striking in its contrasts with the surrounding waters than does the Gulf Stream of the Atlantic.

Striking off at Formosa, from the great equatorial, it moves with majestic powers, heedless of the fiercest gale, and to the eye of the thoughtful observer is bent upon the discharge of some momentous mission. Reaching the fortieth parallel of north latitude its surface is swept by the 'brave west winds' of the northern hemisphere, and thus is turned aside and forced in an immense broad stream over the coasts of Oregon, Washington Territory, and British Columbia.

If the Gulf Stream has clothed Ireland with its robe of verdure, and made it the 'Emerald Isle,' the Kuro Siwo has done as much for the Aleutian Islands and Alaska. They are mantled with living green. The flocks scarcely need shelter in winter. If their soil is treeless, their Gulf Stream richly supplies them with timber for their canoes, and camphor wood of Japan and China for their furniture.

The hills of Russian America, like those of Norway, bristle with pines and firs down to the very seashore. 'There never was,' says Capt. M. F. Maury, the author of the *Physical Geography of the Sea*, 'an iceberg in the North Pacific ocean, and consequently the tender plants along its shores are never nipped down by the cold that the drifting islands of ice always engender. Therefore, we may conclude that, parallel for parallel, and altitude for altitude, the climate along the seashores of our new possessions are quite as mild, if not milder, than those of Northwestern Europe, and we know that the winter climate of England is not so severe as that of Virginia.'

Kotzebue, as long ago as 1815, remarked these facts, and especially commented upon the riches of the Arctic flora, amidst manifold variety of soil, on the rocky coast of St. Lawrence Bay (near Behring's Strait). Vessels in the North Pacific, when becoming clogged with icy crust on their rigging, along the Asiatic coast, run over toward the American coast to thaw out in the warm waters of the Kuro Siwo.

The climatic effect of this ocean stream is so great on the American Pacific slope, that about Puget's Sound the inhabitants can seldom fill their ice houses, and even in the great territories lying eastward as far as Idaho and Montana, among the upper waters of the Missouri and the Yellowstone, this climatic mellowness is experienced in the winter season. The report of explorations of the Yellowstone, made by Gen. Reynolds, of the Engineer Corps of the United States Army, who wintered, in 1860, in the valley of Deer Creek, in which the Northern Pacific Road will attain its greatest elevation and cross the Rocky Mountains, says:

'Throughout the whole of the season's march, the subsistence of our animals had been obtained by grazing after we had reached camp in the afternoon, and for an hour or two between the dawn of day and our time of starting. The consequence was, that when we reached our winter quarters there were but few animals in the train that were in a condition to have continued the march without a generous grain diet. Poorer and more broken down creatures it would be difficult to find. In the spring all were in as fine condition for com-

mencing another season's work as could be desired. A greater change in their appearance could not have been produced, even if they had been grain-fed and stable-housed all winter. *Only one was lost*, the furious storm of December coming on before it had gained sufficient strength to endure it. *This fact, that seventy exhausted animals, turned out to winter on the plains on the first of November, came out in the best condition, and with the loss of but one, is the most forcible commentary I can make on the quality of the grass and the character of the winter.'*

This wonderful phenomenon is explained only by the potential agency of the ocean current; for, if it were not contiguous to the continent, the westerly winds would possess less vapor, and hence less heat would be liberated upon their condensation.

It is impossible to explain away the mild climate of western Europe, and the great northwestern Territories of the United States, without the agency of aqueous vapor, furnished from a warm sea, constantly supplied with fresh quantities of equatorial water; and such a condition implies the actual movement of the Gulf Stream to Britain in one case, and the Kuro Siwo to the Pacific coasts of America.

Professor Henry has said that the westerly sea winds dispute the credit of England's mild climate with the Gulf Stream. That is not unlike a case in which the steam-pipe of an engine should dispute with the boiler as to which was the most important part of the machinery.

The disciples of Mr. Findlay, anxious to annihilate the great oceanic currents at Newfoundland, and to say to its onward, flowing waters, 'thus far and no farther shalt thou come,' assume that, on reaching the Grand Banks, it has lost ten or fifteen degrees of its heat, and been cooled down suddenly by the cold water. Were this true, its thermic energy would still suffice to regulate the climates of western Europe. Mr. Croll, in his able paper in the *London Philosophical Magazine*, last year, showed that 'the quantity of heat conveyed by the Gulf Stream (limiting the term to the stream which flows through the Florida Pass) is equal to all the heat received from the

sun by 3,121,870 square miles at the Equator.' The area of the north Atlantic ocean, from the parallels of Florida to the Arctic circle, is about 8,000,000 square miles. 'Mr. Findlay,' says Mr. Croll, 'thinks that I have doubled the actual volume of the stream. Assuming that I have done so, the amount of heat carried by the stream would still be equal to all the heat received from the sun by 1,560,935 miles at the Equator. In this case, the quantity of heat carried by the Gulf Stream into the Atlantic through the straits of Florida, to that received by this entire area from the sun, is as one to four. It, therefore, follows that one-fifth of all the heat possessed by the waters of the Atlantic over that area is derived from the Gulf Stream. The stoppage of the Gulf Stream, taking it at *Mr. Findlay's estimate*, would deprive the Atlantic of 77,479,650,000,000,000 foot pounds of energy in the form of heat per day!' To satisfy Mr. Findlay, Mr. Croll, basing his estimate on the current through the Florida Pass alone, halved that current. He should have doubled it, because, as I have elsewhere shown, and as all correct and recent hydrographic charts evidence, there is an immense flow or drift of hot equatorial waters, which moves off the northern coast of San Domingo toward the northwest and *unites* with the current of the Florida Pass, and the drift is larger than the current. Besides, the great specific heat of water (or its power to absorb heat in warming and to give out heat in cooling) is without a parallel, being 1.000 (one), while even that of iron is only 0.11379 (about one-tenth.) The quantity of heat, therefore, absorbed by a pound of water in changing its temperature from 32° to 212° , Fahr., would suffice to raise a pound of iron from 32° to 1620° , a bright red heat; and, conversely, a pound of water in cooling from 212° to 32° , from the ice point to the boiling point, gives out as much heat as would a red hot cannon ball, of one pound weight, in cooling down to 32° ! Were the Gulf Stream suddenly and squarely met and stopped near Newfoundland, and suddenly cooled down, it is easy to see the amount of felt or sensible heat it would give off would be intolerable. With the heat given off by this reduction of temperature, increased by that due to loss of motion by the

supposed concussion with polar waters, its briny billows would be as painful to the hand as the blacksmith's iron after it has become too stiff for his hammer, but is hot enough to repel the unwary touch. Such seas would be 'seas of fire,' utterly impassable to the mariner, and deadly to marine life!

Dr. Carpenter assumes that the Trade Winds can affect 'only the uppermost strata' of the tropical ocean, propelling these, by the *vis a tergo*, westward against the American Isthmus. He, in common with Capt. M. F. Maury, maintains that currents produced by the winds cannot extend to any depth, but are necessarily very shallow. If, as he says, the 'uppermost strata only' are influenced by the sun, all the worse for the theory that the removal of the American Isthmus would not impair English climate, since, in this view, the uppermost layers of the trade-swept equatorial ocean would easily be transferred into the Pacific basin at Panama. But the truth is, the agency of perennial winds extends to greater depths than physicists generally suppose. It cannot be questioned that sudden disturbances and variable winds will not make themselves felt more than superficially. But, as Mr. Croll has forcibly said, '*prevailing* winds which can produce such immense surface-flows as that of the great equatorial currents of the globe and the Gulf Stream, which follow definite directions, must communicate their motion to great depths, *unless water be frictionless*, a thing which it is not.' The mechanical 'drag' of the topmost layer sets in motion the layers beneath, successively and gradually, but surely, and there are not wanting instances in which the bottom of the ocean has been carved and sculptured into channels and grooves by the perpetual action and sharp tooth of deep and wind-moved running water. But it never seems to have occurred to those philosophers who make the Gulf Stream, climatically, a myth, denying its influence on Western Europe, and explaining the mild temperature there by the S. W. or anti-Trade Winds, that these very anti-trades powerfully conspire with the descending Polar current off Newfoundland and the rotation of the earth to *force the Gulf Stream close over upon the British Isles*. This is done by the mechanical 'drag'

upon its waters. The truth is, the entire easterly trend of the Gulf Stream is due to the rasping, dragging influence of the anti-trades and not to the mere rotatory motion of the globe, which, as Mr. Ferrell, of Harvard University, and others, have shown, ought to carry it, after leaving Newfoundland, and if strong enough would carry it, toward the S. E. and S. back to the Tropics. Thus, we see that as long as the warm surface-water was in the Tropics it was propelled westward, according to the famous remark of Columbus, entered in the diary of his third voyage to the New World, near Teneriffe: 'I regard it as proved that the waters of the sea move from east to west as do the heavens (*con los cielos*).' But once removed from the intra-tropical regions, the S. W. anti-Trades come into play and bear them off from west to east or toward Western Europe. So that *even without the circulation due to the specific gravity differences*, the mighty and nearly perennial force of the winds in the extra-tropical latitudes would propel, and does propel, the current to the vicinity of Ireland and Norway.

We need not dwell upon the existence of these S. W. winds. Every transatlantic voyager in winter has felt, on the passage from Liverpool to New York, their tremendous power as 'head winds.' The most powerful Cunard steamers quiver and become almost motionless when facing them; only this winter the *Algeria* and the *Concordia* (of another line) were, respectively, twenty and thirty-eight days in crossing the Atlantic. Glaisher encountered them (as '*the Aerial Gulf Stream*') in the lofty regions of aeronautic navigation over Great Britain, moving with the velocity of seventy or eighty miles per hour. And the late Austrian expedition into the Arctic Ocean record the fact that on their return south to Nova Zembla and Norway, they had to 'battle against continuous heavy gales from the S. W.' 'The temperature of the water in $77\frac{1}{2}^{\circ}$ N. on the 5th of September,' they say, 'was 37.6° F., and in $76\frac{1}{2}^{\circ}$ N. on September 8th, in sight of Cape Nassau, even 40.1° F.' (Showing the presence of the Gulf Stream.) They add the remarkable observation: 'In the night, from the 12th to the 13th of September, we were in the

region in which the equatorial and polar air currents come in conflict. The barometer fell two inches, and the sea became so rough, the helmsman lost control of the rudder.'

Strange as it may appear that the Gulf Stream is projected into the Polar Basin, it is conclusively demonstrated by the well-known continual emergence thence of enormous icy and ice-bearing currents, whose places must be supplied by inflowing currents from the south. All surprise and skepticism vanish when we combine with such phenomena the well-attested fact that streams of air and water, of different density and chemical constitution, display a wonderful reluctance to mix and commingle with each other—a characteristic so marked that Coleridge used wittily to say that 'in the city of Cologne he could distinctly count more than a hundred separate smells.'

We have now demonstrated the extension of the great current of the Atlantic from the Mexican Gulf to the north cape of Europe, where, in the rudest and most boreal winter, it keeps open the Norwegian harbor of Hammerfest. It was in the seas northward, and between Nova Zembla and Spitzbergen, that the brave old sailor, William Barents, the most famous navigator of the seventeenth century, persisted, to the day of his death, in assigning to his fellow-explorers the best route for finding an open water avenue to the Pole. It was in the same seas that Hendrick Hudson, in 1607, found and recorded numerous evidences of a 'streame running to the northeast!' Here, too, hydrographic science had taught Silas Bent to fix the thermal paths to the Pole, more than fifteen years ago. Here the late Swedish expedition reported incontestable signs in 'the drift-wood, cork, raft-wood, of the Lofoden Isles and West Indian legumes' of the Gulf Stream movement. Here also, a year ago last September, the Austrian explorers unconsciously verified the Bent hypothesis in the most perfect and remarkable manner, and established the fact so long in dispute, that the Gulf Stream is not a myth, but is, indeed, the *Great Artery of the Ocean*. The Austrian report of Weyprecht and Payer, last year, makes the following disclosure: 'The ice between the 28th and 36th degrees of longi-

tude, *east of Spitzbergen*, proved to be looser and thinner than, perhaps, in any other part of the Arctic Ocean. Flakes were nowhere to be seen, and the horizon appeared as a straight and unbroken line. One could have believed himself to be on a *fresh water lake* instead of the Arctic Ocean. A strong steamer could have taken a straight course through the ice. At midnight (Sept. 1) we attained, within loose drift ice, our highest latitude, $78^{\circ} 48' 8''$ N. on the meridian of $42^{\circ} 30'$ E.' (See Report of Hydrographic Office, by Commodore Wyman, with translation of the Austrian report.) These explorers added: 'A thick fog, with strong head winds, prevented us from penetrating further north; *the ice would not have been an obstacle.*' And again, '*there was not a piece of ice to be seen on our course below the 7th parallel of latitude up to the coast of Nova Zembla.*' These facts, they say, 'prove the Nova Zembla sea to be *the most favorable basis for attempts to reach the Pole.*' Their conclusion has been fortified by every report that, up to this hour, has reached Europe or America, and this conclusion, our readers will remember, was first announced by Captain Bent in 1856, sixteen years ago, in his celebrated theory of 'The Thermometric Gateways to the Pole.'

Whatever weight we may attach to Polar exploration, it must be allowed on all hands, that these observations are of incalculable importance in a scientific point of view, as showing an arterial circulation of the sea through the channels of its Gulf Streams and Kuro Siwos and its submarine, almost glacial, currents. *Mutatis mutandis*. The reasoning applied to the northern hemisphere holds equally good for the southern hemisphere.

ART. VIII.—*Memoir of Chief Justice Taney.* By Samuel Tyler, LL. D. Baltimore: John Murphy & Co.

We do not recollect ever having begun a volume with more interest, or read one with less, than we did the life of the late Chief Justice, 'by Samuel Tyler, LL. D., of the Maryland Bar.' Our anxiety to take up the book was only equalled by our desire to lay it down. We supposed that we would be either instructed or amused, and we were neither. The material was abundant to have made a most interesting work for all classes of readers. The lawyer, the statesman, the politician, the lover of stories of domestic life, and the gossip, might each have been furnished with food for entertainment. With a bushel of private letters before him, he publishes one to illustrate Judge Taney's *domestic* life. Of all descriptions of Maryland society, in the olden time, the book is equally barren. Yet the position in which Judge Taney was born, and in which he lived, was one peculiarly suggestive of such a theme. No State has been so prolific of great lawyers as Maryland; and she produced them in the greatest profusion during the life of the Chief Justice. He was the contemporary of Martin, and Pinkney, and Wirt, and Harper, and the Johnsons, and Nelson, and Dorsey, and Glenn, and others scarce less distinguished. Bar anecdotes, illustrating the characters of these remarkable men, lay around the author in prodigal abundance, yet he gathered none. The dissensions in General Jackson's first Cabinet, which began with its beginning and ended in its dissolution within a year of its formation, would of themselves have furnished a wide field for investigation to the philosophic Macauley, or garrulous, gossiping, scandal-loving old Samuel Pepys. Especially should these have attracted the attention of the biographer of Judge Taney, as they were the occasion of his leaving, for a time, the quiet pursuit of his profession, and embarking on the stormy sea of politics. The event was no less remarkable in its character

than important in its consequences. It was as remarkable for the causes which were alleged to have produced it, as for those which were not, but which were known to be the true ones. Mr. Van Buren, for instance, assigned for cause, that circumstances beyond his control placed him before the public as a candidate for the succession, and that he was thus forced to disfranchise himself or resign. This was the 11th of April, 1831, General Jackson being himself then a candidate for reëlection in 1832, and the election of 1836 having been thought of by no human being, except, possibly, Mr. Van Buren himself. He had at that time been nominated by no legislative convention, caucus, or even newspaper; and from the days of Washington no one had been elected President who had not been in the Cabinet of his predecessor, except General Jackson. Why his remaining Secretary of State, therefore, disqualified or disfranchised him for the office of President, and how he became a candidate without his own consent, were then mysteries, and have remained so ever since. 'Some men are born great, some achieve greatness, and some have greatness thrust upon them.' Mr. Van Buren, by his own account, was about to enjoy the good fortune of Maloolio, and had only determined not to thrust greatness from him. A few days before this, Major Eaton had withdrawn from the Cabinet without assigning any reason. Simultaneously with these resignations, the Secretary of the Treasury, Samuel D. Ingham, the Secretary of the Navy, John Branch, and the Attorney-General, John McPherson Berrien, were requested to resign, no reason being given. They complied with the request, and William F. Barry, the Postmaster-General, alone remained, and for a time constituted the entire Cabinet. The ground stated for retaining Major Barry was considered by some quite as remarkable as that given for dismissing the other three—namely, that it was deemed improper for him to retire while the charge made in the Senate, just before the adjournment, of his having behaved corruptly in his office remained neither withdrawn, nor explained, nor investigated. In accepting the resignations of Messrs. Ingham, Branch, and Berrien, General Jackson expressed entire satisfaction with their conduct, and gave as a

reason for his action his desire that his Cabinet should be 'a unit,' which he thought it could not be, after the resignation of Messrs. Van Buren and Eaton, without an entire reconstruction. Soon after these occurrences, Mr. Berrien, in a card to the public, attributed the want of harmony in the Administration to the determination, on the part of General Jackson, to compel the families of the dismissed members to associate with Mrs. Eaton, wife of the Secretary of War. In this statement he was sustained by Messrs. Branch and Ingham. It subsequently appeared that Mrs. Calhoun was the original offender, that Mrs. Eaton had, previous to her marriage with Major Eaton, been excluded from respectable Washington society, and that after the marriage the attempt was made to force her into society through official circles. The President had recognized her; would the Vice-President refuse? He did, and the result we will presently consider. When the rupture between him and the President was complete, an attempt was made to fix on him the responsibility of the persecutions of Mrs. Eaton. Her husband was imprudent enough to address the public on the subject, and to that address Mr. Calhoun replied in a temperate statement, so clear, so plain, and so dispassionate, as to silence even his enemies, and their 'name,' at that time, 'was legion.' We give a brief abstract from his statement:

'When he and Mrs. Eaton made their visit I was not at home, as he states, and did not return until after they had retired. When I returned Mrs. Calhoun mentioned that they had been there, and said she would not have known who Mrs. Eaton was, had she not been with Mr. Eaton, as the servant had not announced their names. She, of course, treated her with civility. She could not with propriety do otherwise. The relation which Mrs. Eaton bore to the society of Washington became the subject of some general remarks. The next morning she informed me that she had made up her mind not to return the visit. She said that she considered herself in the light of a stranger in the place — that she knew nothing of Mrs. Eaton, or the truth or falsehood of the imputations on her character, and that she conceived it to be the duty of Mrs.

Eaton, if innocent, to open her intercourse with the ladies who resided in the place, and who had the best means of forming a correct opinion of her conduct, and not with those who, like herself, had no means of forming a correct judgment. I replied that I approved of her decision, though I foresaw the difficulties in which it would probably involve me; but that I viewed the question involved as paramount to all political considerations, and was prepared to meet the consequences as to myself, be they what they might.

‘So far from political motives having any influence in the course adopted, could they have been permitted to have any weight in the question, the very reverse course would have been pursued. The road to patronage and favor lay directly before me, could I have been base enough to tread it. The intimate relation between General Jackson and Major Eaton was well known, as well as the interest the former took in Mrs. Eaton’s case, but as degraded as I would have felt myself, had I sought power in that direction, I would not have considered the infamy less, had we adopted the course we did from any other motive than a high and sacred regard to duty. It was not, in fact, a question of exclusion of one already admitted into society, but the admission of one already excluded. Before the marriage, while she was Mrs. Timberlake, she had not been admitted into the society of Washington; and the real question was, whether her marriage with Major Eaton should open the door already closed upon her, or, in other words, whether official rank and patronage should, or should not, prove paramount to that censorship which the sex exercises over itself, and on which all must acknowledge the purity and dignity of the female character mainly depends.’

We recollect many years ago, and not many before his death, having heard an account of this affair from Mr. Calhoun’s own lips. There were a few friends present, and the conversation had turned upon General Jackson, his character, its impress on the times, and the mighty results which he had been the instrument in bringing about. In such connection it was natural that the Eaton affair should be mentioned. Mr. Calhoun said: ‘The matter had been discussed between Mrs. Calhoun

and myself, but without coming to any positive conclusion. I had gone to my study, and was writing, when she came in without a word of introduction. She said: "Mr. Calhoun, I have determined not to return Mrs. Eaton's visit." I have heard that a drowning man will sometimes see, at a glance, his whole past life, and, at these words, it seemed as though the future was shown me in as sudden and as vivid a manner. The rupture with General Jackson; the Administration changing from a Free Trade policy to that of Protection; the failure to adjust the Tariff difficulties; Executive patronage brought to bear upon the States' Right leaders; personal popularity influencing the masses; certain Nullification by South Carolina, and almost certain attempt at coercion by the Federal Government—this was the panorama which passed like a flash before my eyes. I was roused from my partial reverie by Mrs. Calhoun saying again, and with emphasis, "I have determined, Mr. Calhoun, not to return Mrs. Eaton's visit." I then said that she misunderstood my silence, and said simply: "That is a question about which women should feel, not think. Their instincts are the safest guides. I entirely concur with you in your decision." Of course we only quote from memory, and, while the published statement gives the reason which influenced Mr. Calhoun's action as Vice-President, we have thought the anecdote might not be without interest, as affording a glimpse of the private feelings of the man and of the woman.

The vindictive bitterness and unforgiving hate felt toward Mr. Calhoun for this act of manly independence can, at this day, be realized only by considering his then social and political position. His decision as to Mrs. Eaton's *status* was conclusive. Hence the experiment was first made on him, and it was made with every hope of success. His relations with General Jackson were then, and had been for years, of the most intimate and friendly character. For this reason it was supposed he would be inclined to yield. Then, the country, as will be seen further on, was terribly convulsed, and upon the very verge of revolution. Upon the position which General Jackson should assume relative to the great issue then pending, it was generally admitted would decide the fate of the

country for weal or for woe. He was as yet, if not halting between two opinions, at least not openly committed. The wonderful influence which Mrs. Eaton had over him was well known. Married to a Cabinet Minister, she was determined not to be excluded from the houses of his colleagues. If friendship, or personal ambition, could not influence Mr. Calhoun, might not love of country do so? If his personal relations with General Jackson were uninterrupted, the Administration would be under his control. General Jackson once secured, his personal popularity and iron will, backed by the (even then) powerful patronage of the Government, would give easy and quick victory to the Republican party over their enemies, and the enemies of the Constitution. Could General Jackson be induced only to avow publicly the principles of the party to which he had always professed to belong, and announced his determination to act upon them, prosperity would be secured to the South, and peace to the whole country. With the Executive standing squarely on the Jeffersonian doctrine of '98 and '99, consolidationism must yield or die. Georgia, in 1827, had asserted the right of State interpretation, and denounced a tariff for protection as unconstitutional. South Carolina, in December, 1828, had concurred in these views, and published the 'Exposition.' Alabama, in 1828, and again in 1829, avowed the same doctrine. Virginia, through her Legislature, by a vote of 134 to 68, had reaffirmed her Resolutions of '98 and '99. Should even one of these States nullify the Act of 1828, known over the whole South as the 'Bill of Abominations,' and the President declare that he had no power to enforce it, the wheels of government must stand still or the bill be repealed, and a constitutional act passed for the legitimate purposes of revenue. After one of the most exciting elections that had ever taken place in the country, General Jackson had been elevated to the Presidency by an overwhelming majority. He had always been a Republican, but so had Adams, and Clay, and Crawford, his competitors for the Presidency in 1824. The organization of his Cabinet had given great satisfaction. Mr. Van Buren, his Secretary of State, was known as a 'Northern man with Southern principles.'

He might possibly have been more truly described as ‘a man of seven principles — five loaves and two fishes.’ But still he was not unacceptable, as he had always acted with the Republicans. Ingham, of Pennsylvania, was a Republican heart and soul. He was also a devoted personal as well as political friend of the Vice-President. Branch and Berrien were of the same faith and party. Eaton and Barry were personal friends of the President. They were Jackson men *pur et simple*. Such was the material of which the Cabinet was composed, when the new government was organized, March 4, 1829. Mr. Van Buren, however, was not present. De Witt Clinton had died in February, 1828, while a candidate for Governor on the Jackson ticket. Mr. Van Buren was nominated in his place, and was elected in November of that year. He resigned the seat which he then held in the United States Senate, and was inaugurated Governor, January 1, 1829. The 12th of March he resigned the gubernatorial chair to take his place in General Jackson’s Cabinet. In the meantime the duties of the office of Secretary of State were performed by a friend of Mr. Van Buren, James A. Hamilton, of New York, a son of General Alexander Hamilton. When Mr. Van Buren reached Washington he found a very decided coolness between the Vice-President and the Secretary of War, John H. Eaton, and a division in the Cabinet, Messrs. Berrien, Branch, and Ingham, having sided with Mr. Calhoun, and Mr. Barry with Major Eaton. The President’s relations, however, with the Vice-President had not yet been openly changed. It was Mr. Van Buren’s business to effect this change, and he did it before the end of the year. He became at once the advocate of injured innocence and suffering virtue, and discovered that Mrs. Eaton (*née* Peggy O’Neal) was ‘persecuted for righteousness sake.’

Of Peggy, personally, we feel that it is time that we should say a word. She has, in fact, been already too long neglected. Her father was an Irishman, of whom we know but little. As Mr. Fairbairns was distinguished only as the father of Mrs. Fairbairns’ children, so was he remarkable only, we believe, for being the father of Peggy, and keeping a boarding-house

in which members of Congress, officers of the Army and Navy, and well-to-do clerks, lodged and were fed. Of her mother we know absolutely nothing. Peggy's education was neglected, as might have been expected. She was, when young, not pretty, but very pert and very clever, and was, of course, much petted by the men boarders. The ladies of the house did not approve of Peggy, and made predictions as to her future. She thought it would be well for them to attend to their own business, and 'let her alone;' and so long as the husbands paid her attention, she cared but little for the opinions of the wives. She was what is termed a 'knowing young woman.' She was no

'Smiling dame,
That mimics virtues, and does shake the head
To hear of pleasure's name.'

As she increased in years, and approached womanhood, she became more and more remarkable for her physical attractions; and, though never beautiful, she had winning ways to make men admire her, and, to use a racing term, wit enough to 'keep within the posts.' She was 'horsey' enough to justify slang in speaking of her. In spite of all the predictions of those who would not mind their own business and 'let her alone,' and, as if to spite them, she married, and married well. But her husband was in the navy, and much at sea, and, during his absence, Peggy left her moorings and went to sea, too—we mean socially, of course, and on dry land. It was in society that she cruised. She sailed under the matrimonial flag, and exercised all those rights, privileges, and immunities which, in her opinion, appertained to the condition of a married woman, and still wished people would 'let her alone!' She was talked about all the same, and was at last excluded from society. Her husband died, and she married Major John H. Eaton, Secretary of War. Again disappointed expectation falsified all predictions and brought horoscopy into disrepute. But of all those who had studied the stars, and calculated her nativity, none had ever predicted that she would accomplish what Alexander Hamilton had attempted in vain, viz., that she would destroy the work of 'the fathers,' which they had flattered

themselves was perfect ; that she would work a revolution in the Constitution of the country, enlist General Jackson under her banner, force herself into a society which had tabooed her ; consolidate the Government, abolish slavery, and cause a war more terrible in its results than that which her prototype originated between the Greeks and the Trojans — yet all these things Peggy O'Neal did, or caused to be done.

After General Jackson had retired from public life, and the places which had known him knew him no longer, the more respectable of his adherents began very unmistakably to show Mrs. Eaton the cold shoulder. She was not one to be very easily put down, and, where the force was too great to resist, she never submitted with patience, nor failed to pay back all acts of unkindness, and usually with interest. Mrs. Polk, when presiding at the White House, found her acquaintance not desirable, and took no pains to conceal her impressions. Mrs. Eaton was not long in discovering this, and acted promptly. Not knowing when she might be actually excluded, she seized upon the first opportunity of a gathering of the great ones of the land at the Presidential mansion, and presented herself. Fortune favors the brave, and it favored her on this occasion. Mrs. Polk was seated when she entered, and by her side sat the wife of a foreign ambassador, who was herself, however, an American. Mrs. Eaton approached, nodded with a pleasant and familiar smile, and took a vacant seat which happened to be next them. They were surrounded by ambassadors, Senators, judges, and members of the Cabinet, and became immediately so engaged in conversation as apparently not to observe the new comer. Peggy bided her time, and, taking advantage of the first pause, said in a very distinct voice, and with a manner that attracted instant attention, ' Good morning, Mrs. Polk, you did not see me ; no matter, in such a charming circle I don't wonder at it. And you, too, Madame — ; how very well you are both looking. By the by, what a funny country this is ! Only think that we three daughters of tavern-keepers should be sitting together here in the White House, and receiving the attentions of the most distinguished of our own countrymen and of the representatives of the

crowned heads of Europe! Why, how embarrassed you both look! I don't mind it a bit. Your father, you know Madame ——, kept a tavern in Connecticut, and yours, Mrs. Polk, in Tennessee, and mine — well, mine did not exactly keep a tavern, it was a private boarding-house for members of Congress, but, for the sake of the unities, we'll call it a tavern. And to think how oddly it has all turned out. You, Madame, married a foreign minister, and you, Mrs. Polk, are the wife of the President, and my husband was a member of the Cabinet, and foreign minister; and here we all are together in the White House. Funny country, isn't it! Good morning, Mrs. Polk, good morning, Madame ——; I will see you both again soon.' And so having brought her guns quickly into battery, and delivered her fire, she limbered up and retired before the enemy could reply. The effect can be more easily imagined than described. So parted Peggy with her two friends, who did not approve of her.

Mr. Van Buren made a reconnoissance of the political field as soon as he reached Washington. He had probably been advised before leaving New York as to the exact condition of affairs by his *avant courier*, Hamilton, who had been sent on in advance 'to spy out the land,' and inform him when his presence would be necessary. The character of this remarkable man may be inferred from the various *soubriquets* by which he was known: 'Talleyrand,' 'The Magician,' 'The Fox of Kinderhook,' etc., etc. With pleasing and polished manners, and seeming frankness, he was intensely ambitious and selfish. He was a man of action eminently; he intended to be President—he not only '*desired*' it, he willed it. There was but one impediment, and that he determined to remove.

John C. Calhoun was by all parties, and in all sections, recognized as the successor of General Jackson. He was a man of high ability and unsullied reputation. Scandal had never meddled with his name, nor had slander ever dared assail him. As a husband, as a father, as a neighbor, as a master, he was irreproachable. His personal popularity was such that, in 1824, he was voted for by all parties, and elected Vice-President, when General Jackson was defeated. In 1828

he was reëlected when Mr. Adams was defeated. 'His carriage stopped the way' to the White House, and Mr. Van Buren determined that it should 'move on.' The President and Vice-President were warm personal friends, and, so far as was known, agreed politically. General Jackson was publicly and solemnly pledged to serve but one term. Should he avow the principles of the Republican Party, and the Protective Policy be broken down or abandoned, there was but one man who could succeed him. Mr. Calhoun was then the recognized leader of that party. The doctrines of '98 and '99, which had been buried and forgotten during the quarter of a century the party had been in power, he had disinterred and roused into life. They were not dead, they had only slept. The 'Exposition' of the South Carolina Legislature, prepared by him, was a State paper of such power as to be ranked with the Virginia 'Report' of 1800, written by Mr. Madison. Each looked to State interposition to prevent Federal aggression; one was directed against the Alien and Sedition Laws, the other against the Protective Policy. Leading the advance guard of the Republican Party, and carrying its banner with Free Trade and States Rights emblazoned upon its folds, he stood without a rival for the succession, should the principles of that party prevail. This Mr. Van Buren saw and knew. If a breach could be effected between the President and this recognized leader of the Republican Party, and the prominent members of that party could be excluded from the Executive councils, and the President be surrounded by partisans and place-hunters, with no political principles, greedy for office, and anxious to make themselves agreeable by concurring with him in opinion, and by assuming his quarrels, might he not, by prudent management and dexterous manipulation, be gradually weaned from his principles, being first persuaded that he had been abandoned by his political friends? But how could the breach be effected? On his arrival in Washington Mr. Van Buren found the means ready which he needed. Time, patience, perseverance, prudence, and skillful use of the material already furnished, were all that was necessary to insure success.

He saw Mrs. Eaton, and measured her at a glance. Mr.

Calhoun was her enemy. He had ruined when he could have saved her. His social position and political power were such that admission to his house would have opened to her every drawing-room in Washington. Secretaries would not have turned their backs upon her, had he taken her by the hand. At least so she thought, and she hated him with a hatred commensurate with the injury she fancied he had done her. She was no ordinary woman. Her feelings being undisciplined, and her passions uncontrolled, the mortification which she suffered maddened her, and she hungered for revenge. She was precisely the instrument Mr. Van Buren needed, and he at once used her. He became her friend, confidant, and adviser. He soon acquired an influence over her as great as she possessed over General Jackson. His influence was seen nowhere, but felt everywhere. He at all times advised peace, while he was adroitly producing discord. Col. Richard M. Johnson — afterward Vice-President — in the goodness and simplicity of his heart, was induced to call upon the Secretaries, and inform them confidentially that they would be removed from office unless they would consent to social intercourse between their families and Mrs. Eaton — that such was the President's determination. This, of course, effected the result which it was intended to produce. They flatly refused, and declared that they would tolerate no interference with the social relations of their families. In the meantime the impression was produced on the President's mind that a conspiracy had been entered into between the Vice-President and the refractory Secretaries to drive Major Eaton from the Cabinet by ostracizing his wife, and excluding her from society. The existence of such a conspiracy, for such a purpose, was afterward asserted by General Jackson as a well-known fact, which justified him in re-organizing his Cabinet. Mr. Calhoun was the Mephistophiles, with 'iron eye and cruel sneer,' who had originated this scheme to blast the fair fame of an innocent woman, in order to force from the Cabinet a personal enemy. Mr. Van Buren still preached peace, and protested against the removal of the obnoxious Secretaries. General Jackson, meantime, fumed and fretted like a caged tiger. The greater the re-

straint put upon him by his friends the more intense his hatred against those who were persecuting innocent Mrs. Eaton. At this time, and under these circumstances, the 'Kitchen Cabinet' was organized. The President, hating his Secretaries, but persuaded not to remove them, compromised with his advisers by holding no Cabinet meetings. Under these circumstances he took counsel only with 'his friends.' The controlling spirits of this cabal were Mr. Van Buren, Francis P. Blair, and Amos Kendall. They were called the 'Kitchen-Cabinet,' because it was said that, to avoid observation, they assembled at unusual hours, and entered the house from the rear. So matters continued for nearly a year. In the meantime it was rumored that Mr. Calhoun had in Mr. Monroe's Cabinet been hostile to General Jackson, and advised his punishment when his Florida Campaign of 1818 was under discussion. No one than Mr. Van Buren better understood the art *spargere voces in vulgum ambiguas*, or the effect of rumor on a mind already prejudiced and prepared to give credence to reports disparaging to the person assailed. 'Honest Iago' himself did not better understand the effect of dark insinuations when he exclaimed, 'O beware, my lord, of jealousy!'

When these rumors were first communicated to General Jackson does not appear from any published statements, nor by whom. The 'Crawford Letter' seems to have been procured for his inspection by Mr. Van Buren's friend, James A. Hamilton, before mentioned in connection with the State Department. The statements as to this whole matter, both by General Jackson and Mr. Forsyth, to whom the letter was written, and from whom it was obtained, are very vague. The letter itself, or rather the copy which was furnished Mr. Calhoun, contained blanks where the names of persons with whom Mr. Crawford had conversed upon the subject should appear. It would seem, however, that at some time the Marshal of the District had told somebody, who had told General Jackson, that Mr. Calhoun had not been his friend in 1818, and that he made no inquiry of Mr. Calhoun as to the facts. Again, it appears that somebody told General Jackson that Colonel Hamilton had seen a statement of Mr. Crawford to the same

effect. Upon hearing this, General Jackson saw Colonel Hamilton, who saw Mr. Forsyth, who wrote to Mr. Crawford, and from him obtained a statement confirming the rumor. The first intimation Mr. Calhoun had of this conspiracy to effect a breach between General Jackson and himself, and destroy his influence with the former, was the receipt of a letter from General Jackson, inclosing the Crawford letter, and demanding an explanation. The note was offensive in its tone, and peremptory in its demand. It surprised every one at the time, and Mr. Calhoun as much as others, that General Jackson should never have mentioned the subject to him in any of their frequent intimate, private, and confidential conversations. Up to that time he had no reason, from General Jackson's manner, to suppose that any change had taken place in his feelings toward him. He replied, however, temperately, explaining fully the position he did assume as Secretary of War in Mr. Monroe's Cabinet, and showing, by reference to letters and official documents, which General Jackson understood at the time, the position he occupied. He sustained his statement by letters from Mr. Monroe himself, and from Mr. Adams, Mr. Wirt, and Mr. Crowningshield, the only living members of that Cabinet. The evidence against Mr. Crawford was overwhelming. General Jackson abruptly ended the correspondence by declaring himself not satisfied, charging Mr. Calhoun with duplicity, and declining to receive any other communication on the subject. So the breach was effected, and Mr. Van Buren's star was in the ascendant. That Mrs. Calhoun's declining to visit Mrs. Eaton was the real cause of the rupture, no impartial person at that time doubted, or that the magician, who had secretly and so suddenly effected the great change in the feelings of General Jackson toward his life-long friend, was Martin Van Buren. Then began openly the war on John 'Cataline' Calhoun, as he was called by the Administration organ at Washington. The whole power of the Government, through its press and patronage, was used to crush him and his friends. The principles of the Republican Party were soon repudiated, and then, by misrepresentations of the motives of those who still maintained them, made

odious. Proscription for opinion's sake was then adopted for the first time in the history of the Government. It was not only acted on, but openly avowed and justified. Mr. Marcy, of New York, declared in his place in the Senate, that 'to the victors belong the spoils.' From 1789, when the Government was organized, till 1829, when General Jackson was inaugurated, a period of forty years, there had been seventy-four removals, many of them for cause. Mr. Adams, his immediate predecessor, removed two, both for cause. Mr. Monroe in eight years removed nine, six for cause. James Madison removed five, three of whom were defaulters. During one recess of about nine months General Jackson removed one hundred and seventy-six! In one year Mr. Barry removed four hundred and ninety-one postmasters against seventy-four removals of all kinds during the administrations of six Presidents, beginning with Washington and ending with John Quincy Adams, and, as we have said, embracing a period of forty years. From this time to the end of General Jackson's administration there was but one test of political orthodoxy, and that was devotion to 'The Old Chief.' 'Is he a Jackson man?' was substituted for the inquiry made during the times of Jefferson, 'Is he honest? Is he capable?'

We date from this time the downward course of our Government. The offices were held no longer to be sacred trusts, created for the benefit of the whole people, and for the discharge of the duties of which officers were to be selected because of their capacity and honesty. The most competent and faithful officers were daily removed to make way for mere partizans, without reference to their qualification. Loyalty to General Jackson, and after his time to party, became the sole test of fitness for office. The offices themselves came in time to be considered the property of the dominant party, and were distributed after each election as the legitimate spoils of war. Soon there grew up in the country a distinct party, previously unknown, or at least not felt—the Government Party—the tax-consuming, in contradistinction to the tax-paying party. It was represented by those who lived upon the Government, as opposed to those who supported the Government. The

interest of this party was clearly to promote extravagance in the Government. It consisted not only of office-holders *per se*, but of all Government employés of every kind and description whatever. The higher the salaries the more the office-holders proper received. In time, contracts could only be obtained by those who had 'worked for the party,' to use a cant phrase which then came in vogue. The contractors thus were recruited into the ranks of the Government or tax-consuming party. The more numerous the Government works the more room for contractors; and the more remunerative the contract the more earnestly would the contractors 'work for the party.' Thus was there then created a powerful organization with interests antagonistic to those of the people, which fed on plunder and fattened on profligacy; which prospered when taxes were high and expenditures lavish, and suffered only when the Government was honest and economical. This party had its origin in New York, and it was known as the 'Albany Regency.' It was transplanted by Mr. Van Buren to Washington, where it soon took root, and overshadowed the country with its branches. Public virtue withered beneath its shade, and the whole political atmosphere became infected with its poisonous exhalations. This party, which, to use the terse and expressive phrase of Mr. Calhoun, was 'held together by the cohesive power of public plunder,' which from its very nature was opposed to the interests of the people, called itself the Democratic Party. We do not intend to assert that the late party by that name possessed a monopoly of public profligacy. On the contrary, we think that it was, as a party, purer and better than any political organization which has opposed it since the days of Jackson and Van Buren. What we mean to assert and illustrate is, that the principle established by General Jackson, of distributing offices as rewards for party services, had a most corrupting influence on public morals, and was one of the leading causes which produced the present deplorable condition of the country. Its origin was with the organization of the Jackson party as it was then known. The name 'Democratic' was assumed as a convenient disguise. In 1850, when Franklin Pierce was

nominated, the party repudiated Jacksonism by adopting as its principles the Resolutions of '98 and '99, and the Virginia Report of 1800. Its principles were then those of the old Jeffersonian Republican Party, and, had the Union continued, we doubt not that in time proscription for opinion's sake would have been repudiated in theory as it had begun to be in practice. The banks, by the policy of General Jackson,* were also enlisted in this army of office-holders. The removal of the deposits and placing them in the vaults of the State Banks brought them at once to the side of the Government party. The higher the duties, and the larger the revenues, the greater the deposits on which they had the right to issue — to lend — and to speculate. But of this hereafter. That the practice which we have spoken of and condemned originated with General Jackson, we think already sufficiently shown. That the Democratic Party was the only one which even professed to be governed by the Constitution, or to possess any element of conservatism, at the commencement of the late convulsion, we fully admit. But its claim to unbroken succession, from the times of Jefferson, we think, it would be difficult to prove. The party which he organized was greatly shaken during the administration of Mr. Madison, and was disorganized during Mr. Monroe's, approached dissolution under the younger Adams, and received its *coup-de-grace* from General Jackson, when, in 1832, he issued his Proclamation. As his name has been canonized, and is, by stump-speakers of the present day, usually associated with that of Jefferson when alluding to the apostles of constitutional liberty, we think it best to add a word to what we have already said, and leave no 'loop nor hinge to hang a doubt on.' About nine months after the arrival of Mr. Van Buren in Washington, to assume his place as Secretary of State, General Jackson sent into Congress a message, in which he advised the passage of a law appointing all subordinate officers for four years only, for the reason 'that it would, by promoting that rotation in office which constitutes a leading principle in the Republican creed, give healthful action to the system.' The Congress did not concur, and he 'took the responsibility,' and, by the removal of between five

and six hundred officers in one year, 'promoted that rotation which, in his opinion, 'constituted a leading principle in the Republican creed, and gave healthful action to the system.' John McLean (afterward on the bench of the Supreme Court) was in the Cabinet of Mr. Adams, and was an ardent supporter of General Jackson. Mr. Adams did not deem that sufficient cause for his removal. The day of General Jackson's inauguration Mr. McLean was removed to make place for Major Barry, a personal friend. We have already mentioned the fact that Mr. Adams made only two removals during the four years he was in office, and both for cause. We think, from the facts above stated, that we may with safety assume that the principle of 'rotation in office' was engrafted on the Republican creed by General Jackson, and that previous to his time officers were not removed, who were competent, to make way for partizans.

In his first annual message he speaks strongly in disapproval of the appointment of members of Congress to office, because of its corrupting influence upon the legislative department; and yet, during the four succeeding years, he appointed thirteen Senators and twenty-five Representatives to various positions! The practice became so common that it very soon attracted the attention of the Senate, where it was unsparingly denounced. The appointment of Mr. Van Buren to England having been rejected in 1832, General Jackson made no other till the 24th of June, 1834, when Mr. Andrew Stevenson was nominated. He was rejected, on the ground that the mission had been tendered to him before his election as Speaker of the House, and that he had, after receiving the offer, but before the nomination, appointed the committees in accordance with the wishes of the President. No other nomination was made till 1836, so the mission to England remained vacant for four years. Had we the space, it might be useful to cite, and instructive to notice, other instances in which the patronage was used for other and legitimate purposes; but we forbear. *Ex ungue leonem.* We have shown the claw only. Our readers may judge of the size of the lion.

Before passing to other reforms in our Government by Gen-

eral Jackson, some completed and others inaugurated, we cannot resist the temptation to notice one more instance of the care with which he protected his pets. We feel a reluctance, too, at leaving our old friends Barry and Eaton without a parting salutation. The first of these suffered persecution with patience so exemplary that it is worthy of all commendation. We have seen that he was retained in office when those were removed against whom no charge had been or could be made. He was willing to serve his country. We feel justified in saying he was anxious to do so, and we believe no amount of persecution, however unjust, could have forced him to resign and retire to private life. But the Postoffice Department was not the only one in which he could be useful. In June, 1834, the Senate passed a resolution of censure on him by a unanimous vote. He saw that they were prejudiced, and, doubting whether he would longer be *useful* in Washington, he accepted a mission to Spain, and resigned. He died on his way, and Major Eaton, concluding that he, too, would leave his country — of course for his country's good — accepted the vacant mission.

(TO BE CONTINUED.)

[We regret that we cannot, in this issue, insert the whole of the above interesting article, which is from the pen of a distinguished son of South Carolina. But, if we should do so, we should have no room for 'Notices of Books,' which we cannot possibly omit.—EDITOR.]

ART. IX.—*POEM*.¹

REBELS.

—Nec tam

Turpe fuit vinci, quam contendisse decorum est.

—*Ovid, Met.*

‘What! call’st thou traitors’ men who vowed
 To save their native land?
 Who stood, for their own homes, a proud,
 Indissoluble band.

Firm on the sanguinary field
 Of fratricidal strife
 They scorn’d their sacred rights to yield,
 But staked, for these, their life.

Cry ‘Treason!’ then — such brand of shame,
 But that his cause he won,
 Had blackened now the peerless name
 Of mighty Washington.

Spare not the memories of our dead,
 From every shackle free;
 But o’er their blood-stained, narrow bed
 Breathe hissing infamy.

Shout peans to the victor bands
 For deeds of daring priz’d;
 Who struck the steel from nerveless hands
 By Famine paralyz’d!

Ere yet — to join the embattled North —
 To waste with fire and sword —

¹ It is not the custom of this *Review* to publish what has already appeared in print; but we make an exception in the case of the above admirable stanzas, because we think they should be preserved in a permanent form.

O'er Ocean's billowy breast, pour'd forth
A mercenary horde.

Ere to their ranks the invading host
Auxiliar forces drew,
The exulting South could proudly boast
Her days of triumph, too!

Even when the banded legions came
Of fierce, tumultuous foes;
O'er clashing steel and volley'd flame
Her star of victory rose!

Heroic hearts and arms of might
Were hers — and round her brow
Shone Glory's ray through many a fight —
Alas! what is she now!

And thou, my Mother, mightiest once!
Who, from thy wide domain,
Didst carve whole States to nourish sons
By whom thine own were slain!

Shorn of thy strength! — midst want and woe —
(O, best beloved of all!)
Like ¹ Zorah's chief, 'twas thine to show
A grandeur in thy fall.

Rent was thy breast with many a wound
By hands unfilial given;
And blood was pour'd that from thy ground
Still cries aloud to Heaven!

Yet rose thy crimson'd standard high
Amidst the encircling host,
Till shiver'd, from thy grasp it fell —
With all but Honor lost!

Thou, on whose soil Mount Vernon rears
Its venerable head;

¹ See Judges, Chap. xiii.

The Genius of the place — with tears —
May mourn thy glories fled !

Even Britons now revere the name
Which consecrates that spot ;
And other sons are thine, whose fame
Can never be forgot.

One, who bore oft, in Honor's cause,
The victor's brandish'd blade,
But now — serenely great — withdraws
To academic shade.

And one who, 'midst the shock of war,
Stood firm as *wall* of *stone*,
Or blazing on the startled rear,
In bursts of thunder shone !

That soul of fire — in danger's hour
By countless hosts unaw'd —
Bow'd, child-like, to a Savior's power,
And 'humbly walk'd with God.'

Peace to his honored dust ! We strive
To check for him the sigh,
Who show'd the Christian how to live,
The hero how to die !

Mother of sons like these ! This age
May brand an act, as crime,
That on immortal History's page
Shall ring with deeds sublime.

Though now, 'in dim eclipse,' thy name
(Emerging pure and bright)
High on the glorious roll of Fame
Shall blaze with living light !

And, by prophetic glance, descried
The hour methinks I see
When the whole North will claim, with pride,
A Jackson and a Lee !

VENATOR

ART. X.—NOTICES OF BOOKS.

1. MEMOIR OF ROGER BROOKE TANEY, LL. D., Chief Justice of the Supreme Court of the United States. By Samuel Tyler, LL. D., of the Maryland Bar. Baltimore: John Murphy & Co. 1872.

We have looked forward, with great interest, to the appearance of the above *Memoir*, and it is now before us. We do not intend to criticise it at all, either favorably or unfavorably, in the present brief allusion to the illustrious hero whose life and deeds it commemorates. Dr. Tyler says: 'That a man of such an iron will, such determined purpose, such undaunted courage, and all the heroic elements of character, should have had such a delicate sentiment of kindness, manifested in courtesy, has always been a subject of observation by those who knew the Chief Justice best. Its source was his charity of heart and high breeding.' (p. 448.) Few men, indeed, if any, have ever more perfectly combined, in one and the same character, the *suaviter in modo* and the *fortiter in re*. A calm and dispassionate survey of his life and actions seems to divest of extravagance the statement of his biographer, that, 'in the mysterious drama of human life, there has never trod the stage a more chivalric man than Roger B. Taney.' After reading in the *Memoir*, as we have done with delight, the eloquent but discriminating tributes to the memory of Chief Justice Taney, by such men as Reverdy Johnson, Charles O'Connor, and Benjamin R. Curtis, we feel no desire whatever to add a word of our own. Hence we shall, in conclusion, lay before our readers the eulogy of Mr. S. Teackle Wallis, which, since the *Memoir* was published, was delivered on the occasion of unveiling the statue erected to 'the great Chief Justice.' This eulogy, as it fell from the lips of Mr. Wallis, impressed our minds as the most beautiful thing of the kind to which we had ever listened. We copy the whole Address of Mr. Wallis, as 'the Chairman of the Committee,' because we are proud of the generosity and genius of the

artist, as well as of the virtues and heroism of the subject of his art. It is as follows:

‘ YOUR EXCELLENCY :

‘ By an Act of the General Assembly of Maryland, passed at the Session of 1867, the sum of five thousand dollars was appropriated for “the building or erecting a suitable monument over the remains of the late Chief Justice Roger B. Taney, on some suitable site in the State House yard, or in the State House itself,” and Messrs. G. Frederick Maddox, of St. Mary’s county, Charles E. Trail and Hugh McAleer, of Frederick county, James T. Earle, of Queen Anne’s county, Henry Williams, of Calvert county, and George M. Gill and S. T. Wallis of Baltimore city, were appointed a committee to carry into effect the provisions of the statute. Upon the organization of the committee, it was found to be their unanimous desire that the execution of the proposed work should be entrusted to the distinguished sculptor, Mr. William H. Rinehart, a native and citizen of Maryland, for many years a resident of Rome. The amount appropriated being wholly insufficient, not even to meet the necessary cost of a monument at all worthy of the State and the occasion, much less to compensate the labors of so eminent an artist, the committee entertained serious doubts of their ability to discharge their duties satisfactorily, without further legislative provision. From this embarrassment they were happily relieved by the liberality and public spirit of the artist himself, who responded to their invitation by a prompt and unconditional acceptance of the commission. It is gratifying to the committee to make official acknowledgment of their obligations to Mr. Rinehart, for the cheerful readiness with which he not only undertook the work, but volunteered to be content with the honor of the commission as it stood, and the pride and pleasure of uniting with his fellow-citizens in their tribute to the illustrious *déad*. The committee, of course, did not feel that it became them so far to tax the generosity of any individual citizen, and particularly one to whom the State already owed so much, for the reflected honor of his well-earned reputation. They, nevertheless, re-

requested Mr. Rinehart to prepare them such design as seemed to him appropriate, and the model of the present statue was accordingly sent forward while the General Assembly of 1870 was in session. The engagement of Mr. Rinehart and the plan of his work were so acceptable to the members of both Houses, that an additional appropriation of ten thousand dollars was at once made for the completion of the monument, according to his design, and under the direction of the original committee. It would be ungracious not to recognize the liberal and most becoming spirit in which this legislative action was taken, and its perfect accord with the deep and spontaneous feeling which had welcomed the first appropriation.

‘ The Legislature of 1867, as appears by the Act of that date, had contemplated the removal of the remains of Chief Justice Taney to the Capital of the State, and the erection of the monument above them. The suggestion, in itself, was eminently appropriate, for many reasons. It was here that, as a student, he had laid the deep and broad foundations of his professional learning and success. In the chamber where we meet to-day to do him honor — and to whose historical associations this scene will add another, not the least — he sat for years a Senator of Maryland, the peer of the distinguished men who sat around him, when no legislative body in the Union surpassed that Senate in dignity, ability, or moral elevation. In the Chamber there, above us, where the honorable Judges, who join us in this tribute to his memory, uphold the ancient credit of the State’s Appellate Bench, at the zenith of his reputation as advocate and counsel, and in the very ripeness of his powers, he shone, the leader of the bar of Maryland, its actual not less than its official head. And those were days, too, when to lead it was to walk in the footsteps of Pinkney, and be measured by the measure of his genius. If, therefore, he had slept beneath this dome, or in its shadow, it would have been with the dwelling-places of his fame about him, surrounded by the olden and consecrated memories of the State, which was but a revolted colony when he was born.

‘ But the wishes of the Chief Justice himself upon that subject had been too strong, and were too sacred, to be violated

by his children, even for the gratification of the public desire. The quiet town of Frederick, the theatre of his earlier professional distinction, was hallowed to him by the grave of his mother, and when he left it in mid life for larger spheres of usefulness and honor, he exacted the pledge, from those who loved him, that he should be laid beside her when he died. Nor was this the outbreak of fresh grief or transient sentiment or feeling. Through all his life of toil and struggle, ambition, reward, and disappointment, it was his dearest longing; and there is something inexpressibly touching in the warmer and more anxious hope with which the world-worn man clung fast to it, as the period drew nearer for its consummation. The literature of the English tongue has nothing that exceeds in mournful tenderness and grace the expression which he gave to it, in a letter written but a little while before the pledge of friendship was redeemed. Such a feeling — so devoted, and cherished for so long — it would have been next to sacrilege to disregard, and the Legislature of 1870 respected it accordingly, by withdrawing from the appropriation of their predecessors and their own all but the one condition, which required the monument to be erected where it stands. The final selection of that locality, with its exposure, rendered it expedient that the statue should be cast in bronze, and the Legislature, therefore, so directed.

‘With the erection of the monument, the prescribed duties of the committee, which I have the honor to represent, were substantially ended; but, in view of the time which must elapse before another session of the General Assembly, they have deemed it due to the dignity of the occasion respectfully to invite the official intervention of your Excellency, in delivering the finished work to the people of the State. It would have been a pleasure to them, if they could have felt at liberty to anticipate the wishes of the Legislature, or to have ventured to ask that your Excellency would gratify your own, by authorizing a more formal celebration than this quiet homestead gathering.

‘As a few moments will disclose to us, the artist has chosen to present us his illustrious subject in his robes of office, as we

saw him when he sat in judgment. The stature is heroic, but, with that exception, the traits of nature are not altered or disguised. The weight of years that bent the venerable form has not been lightened, and the lines of care, and suffering, and thought, are as life traced them. But, unless the master's hand has lost its cunning, we shall see not merely the lineaments we knew, but traces of the soul which illuminated and informed them. The figure has been treated by the artist in the spirit of that noble and absolute simplicity which is the type of the highest order of greatness, and is, therefore, its grandest, though its most difficult expression, in art. The sculptor deals easily enough with subjects which admit of ornament and illustration, or address the passions or the fancy. The graces he can lend his work — the smiles with which it wins us — the beautiful or joyous images or thoughts with which he can surround it — each is to us an open leaf of the fair poem which he writes in bronze or marble. Like the chorus of a drama, they tell, even for the worst of poets, far more than half his story. Another task, indeed, it is to embody in a single image the expression of a great historic life, so that standing, severe and apart, it shall be its own interpreter forever to the generations of men.

‘The pathway of a great judge does not lead through the realms of fancy. Neither in reality nor in retrospect is there much of the flush of imagination upon it or about it. With such a career art cannot deal, nor history, as with those brilliant lives which dazzle while they last, and are seen only through a halo when they are over. The warrior, the orator, the poet — each in his way — is linked with the imagination or enthusiasm of mankind ; and so the broken sword, the unstrung lyre, the shattered column with its cypress wreaths, all have their voices for the common heart. But the atmosphere of pure intellect and dispassionate virtue, serene though it be, is far too cold for ordinary sympathies to live in. The high ministers of human justice are segregated from their fellows by their very function, which shuts out favor and affection. Fidelity to the obligation which withdraws them from the daily interests and passions, and almost from the converse of society,

is the patent of their nobility in their great office. The loftier the nature the more complete its isolation to the general eye—the fewer the throbs which answer to its pulses. Such men may be cherished and beloved in the personal and near relations which are the dearest blessing of all lives. They may be venerated and revered, so that all heads shall be bowed and uncovered when they pass. But they go, when life closes, into the chamber of heroes, fated to dwell afar off, only, in the memories and minds of men.

‘When the great citizen whose image is beside us walked, in his daily walk, amid our reverence, the simple beauty of his private life was all before us. We can recall his kindly smile, his open hand, his gracious, gentle speech. The elders of our generation will remember how his stormy nature was subdued, by duty and religion, to the temperance, humility and patience which he knew. All of us saw and wondered how domestic sorrows, the toils and trials of his station, old age, infirmity of body, ingratitude, injustice, persecution, still left his intellect unclouded, his courage unsubdued, his fortitude unshaken, his calm and lofty resignation and endurance descending to no murmur nor resentment. These things the sculptor is not called to tell to those who shall come after us. The pen of the biographer has worthily recorded them, and just posterity will read what he has written. The image of the magistrate and ruler, as the world was wont to see him, is all that the chisel bequeaths to immortality—his image, as history shall see it, when, ashamed of the passions of our day, she shall be once more reconciled with truth. With this noblest of the tasks of art only genius may deal fitly—yet genius has dealt with it, and its difficulties, overcome, are the glory and the triumph of genius.

‘Thus, then, to-day, sir, the State of Maryland, with grateful reverence and pride, commemorates a life, than which few greater, and none loftier or purer, shall dignify the annals of our country. It was a life coeval with her own, and a part of her own, and she honors what she knew. It was a life of patriotism, of duty, and of sacrifice; a life whose aim and

effort, altogether, were to be, and do, and bear, and not to seem. The monument her people rear to it is scarcely less her monument than his to whom it rises. What changes shall roll round it with the rolling seasons; whether it shall survive the free institutions of which Taney was the worshipper and champion, or shall see them grow in stability, security, and splendor; whether it shall witness the development and beneficent expansion of the constitutional system which it was the labor of his life and love to understand and to administer, or shall behold it,

“Like a circle in the water,
Which never ceases to enlarge itself,
Till, by broad spreading, it disperse to naught” —

are questions which men will answer to themselves, according to their hopes or fears—according to their trust, it may be, in the mercy and providence of God. But Maryland has done her part for good, in this, at least, that she has made imperishable record, for posterity, of the great example of her son. She has builded as it were a shrine to those high civic qualities and public virtues, without which, in their rulers, republics are a sham, and freedom cannot long abide among a people.

‘It was, I was about to say, the sad mischance—but, in a higher though more painful sense, the privilege and fortune—of Chief Justice Taney to fill his place in times of revolution and unparalleled convulsion—when blood boiled in the veins of brethren till it was red upon a million hands. In such a crisis, no man so conspicuous as he, and yet so bound to shun the rancor of the strife, could hope for freedom from distrust and challenge. A soul, brave and tenacious as his was—so sensitive to duty, and so resolute to do it—provoked injustice not to be appeased, and dared reproaches which he might not answer. His constitutional opinions were already part of the recorded jurisprudence of the country, and he could not change them, because the tempest was howling. It was the conviction of his life that the Government under which we lived was of limited powers, and that its Constitution had been framed for war as well as peace. Though he died, therefore, he could

not surrender that conviction at the call of the trumpet. He had plighted his troth to the liberty of the citizen and the supremacy of the laws, and no man could put them asunder. Whatever might be the right of the people to change their Government, or overthrow it, he believed that the duty of the judges was simply to maintain the Constitution while it lasted, and, if need were, defend it to the death. He knew himself its minister and servant only — not its master — commissioned to obey and not to alter. He stood, therefore, in the very rush of the torrent, and, as he was immovable, it swept over him. He had lived a life so stainless, that to question his integrity was enough to beggar the resources of falsehood and make even shamelessness ashamed. He had given lustre and authority, by his wisdom and learning, to the judgments of the Supreme Tribunal, and had presided over its deliberations with a dignity, impartiality and courtesy which elevated even the administration of justice. Every year of his labors had increased the respect and affection of his brethren, and heightened the confidence and admiration of the profession which looked up to him as worthily its chief. And yet he died traduced and ostracised, and his image was withheld from its place in the chamber which was filled already with his fame.

‘Against all this the State of Maryland here registers her protest in the living bronze. She records it in no spirit of resentment, or even of contention, but silently and proudly — as her illustrious son, without a word, committed his reputation to the justice of his countrymen. Nor doubts she of the answer that posterity will make to her appeal. Already the grateful manhood of the people has begun to vindicate itself and him. Already, among those whose passion did him wrong, the voices of the most eminent and worthy have been lifted in confession of their own injustice, and in manly homage to his greatness and his virtues. Already the waters of the torrent have nearly spent their force, and high above them, as they fall, unstained by their pollution and unshaken by their rage, stands where it stood, in grand and reverend simplicity, the august figure of the great Chief Justice!’

Governor Whyte, in his eloquent and touching ‘Reply,’ beautifully said :

‘Maryland has already reared a stately column to him who was “first in war, first in peace, and first in the hearts of his countrymen,” and it was the duty, as it has been the pleasure of the State, to hand down to posterity, as in this memorial of molten bronze, an enduring tribute of affection and regard for her own illustrious son, upon whose shoulders the judicial ermine lay stainless as the virgin snow.’

Such being the character of the great judicial magistrate — the impersonation of gentleness and justice — do we not hear in advance, as we seem to hear afar off, the final verdict of history, in his decision of the great questions by which the passions of the people were so profoundly agitated? When the Lord removed his restraining hand, and gave up the people to their passions, then was his awful voice hushed, and the multitudinous roar of the Pit only was heard. He was not in the mighty, rushing wind of fratricidal strife, nor in the earthquake shocks of the on-coming revolution, nor in the devouring flames of ‘flagrant war,’ but was he not ‘in the still, small voice’ of the august tribunal, over whose calm and dispassionate deliberations ‘the great Chief Justice’ presided. If so, then will the cause of the South, though now fallen, be ultimately seen, by all men, to have been worthy of the sublime devotion of a Jackson and a Lee. Then will the angry passions of men, however they may have raged for a season, and roared for the blood of victims, pass away, and truth regain her rightful ascendancy over the reason of mankind. ‘The Lord God Omnipotent reigneth; let the whole earth rejoice.’

2. CHRISTIANITY AS TAUGHT BY ST. PAUL. By William J. Irons, D. D., of Queen’s College, Oxford, etc., etc. London: James Parker & Co. 1872.

This volume belongs to the series of ‘Bampton Lectures,’ which, from year to year, have supplied the Christian world with learned, able, and eloquent works. Having learned the reputation of the volume before us, as one of the most able

and eloquent of the series, we procured it at once, in order that we might notice it for the benefit of our readers.

It appears to us fully equal to its great reputation for learning, eloquence, and ability. The theme—Christianity as Taught by St. Paul—is a grand one, and, for the most part, it is grandly treated. It sets before us ‘the continuous sense of the Speeches and Epistles of St. Paul;’ that is, not according to their arrangement in the Common Version, but according to the order of time in which they were written. This arrangement of the Speeches and Epistles possesses a great advantage for the study of Christianity as taught by St. Paul.

Again, the great career of the Apostle, as well as his doctrine, is exhibited in chronological order, and with the aid of a good map. Thus, the reader is enabled to contemplate the life and teaching of St. Paul, not confusedly and darkly, but clearly and satisfactorily, through the two eyes of history—chronology and geography. Hence, although the volume is a costly one, we can cheerfully recommend it to the judicious reader, as full of matter for devout meditation and spiritual improvement.

We must, however, mark one sad deficiency in the book. The grand and distinctive peculiarity of the Christian system, as taught by St. Paul, is omitted by the learned author—namely, the doctrine of ‘justification by faith only.’ Hence it fails to set before us that sublime system in all its freedom, and fullness, and glory, and *transforming power*. If it does not exhibit that system without its sun and centre, which is Christ, it certainly exhibits that sun and centre involved in clouds and darkness. By the superstitions and shadows connected in the scheme of Baptismal Regeneration, ‘the Sun of Righteousness’ is obscured and shorn of much of its glory as ‘the power of God unto salvation to every one that believeth’—a melancholy and deplorable obscuration, which is observable in nearly all the great productions of the Oxford school of divinity. It is Christianity as taught, not by St. Paul, but only by Irons, Liddon, and others of the same school, who seem to read ‘the Everlasting Gospel’ with a veil over their eyes. The humblest Christian may, however, read the book before

us with advantage, especially if the Gospel has already opened on his soul in all its full-orbed splendor, and penetrated its very depths with all its transforming power. He will mourn its deficiencies, but he will exult in its illuminations. He will miss the clear and all-cheering light of the centre, but he will admire the constellations of the zodiac.

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